Special Theme Supplement:
Transport and Business
Aircraft Directory

AMERICAN AVIATION

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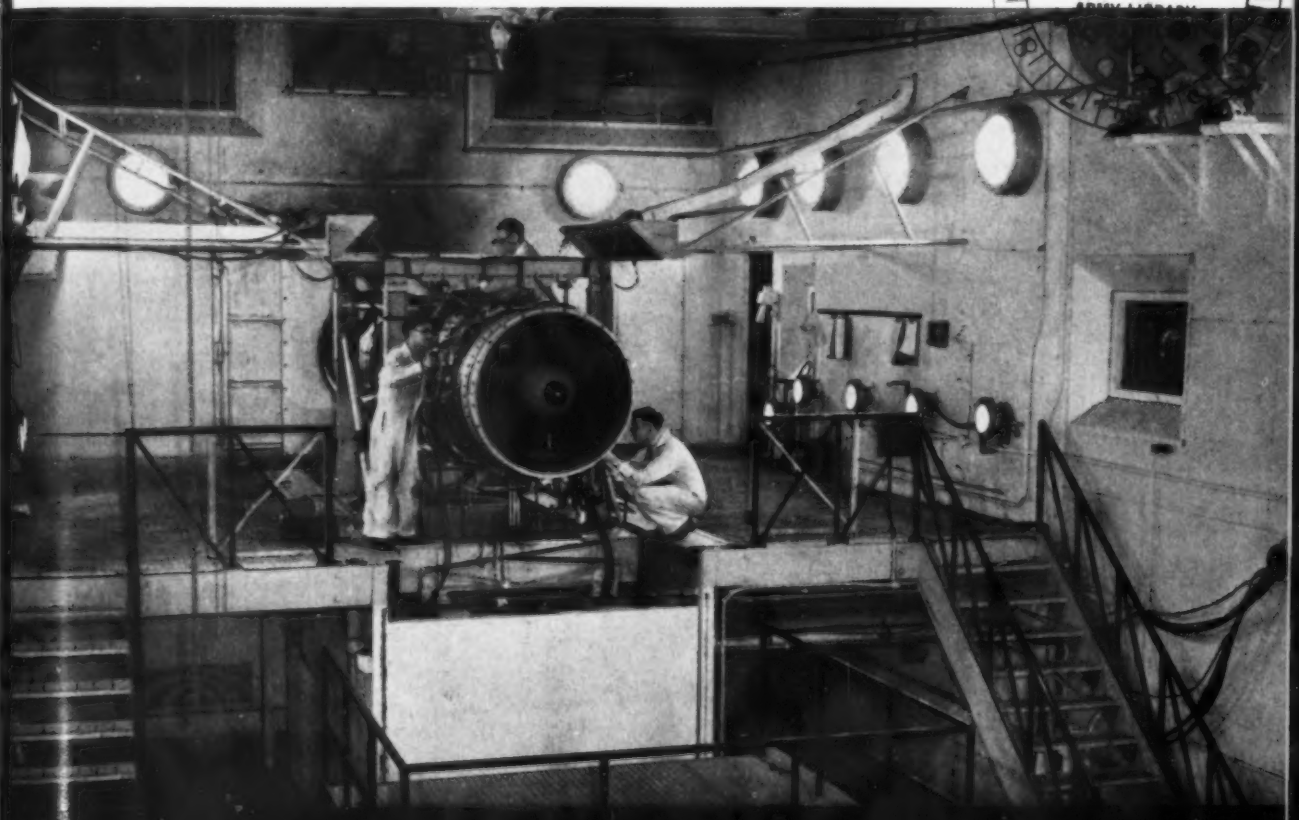

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4. Altitude handling improvements incorporated within two months.
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6. Thrust—in the 20,000 lb. class (without afterburner).

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AIRTRENDS

Edited by Charles Schaeffer

FAA is a good bet to get approval by Congress this year—and the odds are improving rapidly. An AMERICAN AVIATION poll of lawmakers revealed that Capitol Hill mail is running heavy—in the thousands—favoring a single agency or action to end air hazards. Passage in the Senate (where the federal Aviation Agency has won a leadership priority tag) is guaranteed—perhaps this week. Look for slower House action, some token opposition.

But keep in mind: House Commerce Committee has moved speedily and will be able to cite Ike's endorsement of FAA to recalcitrants.

A broad probe of civil aviation looms. House will tackle problems of complex VORTAC system, probe alleged foot-dragging by CAA. But this is only part of the scheme and investigators may pry into a Pandora's box of civil flying troubles. Examples: jet noise; laxity in preparing for the commercial jet age, and aviation agency administrative woes. The time: tentatively July 22. The committee, a mouthful: Legal and Monetary Affairs Subcommittee of the Government Operations Committee.

House fiscal "watch-dogs" have the scent of a new quarry—reliability and quality control in the defense industry. Appropriations Committee wants to know what's going on here, will soon start eyeing records, sources say.

Permanent enactment of emergency Pentagon contract powers seems likely. Pending bill, heavily endorsed by the aircraft industry, would hand a reprieve to the expiring authority under Title I of the War Powers Act.

Mainly, bill would authorize government agencies, in national emergencies to: skirt routine procurement rules to save a vital contract on the verge of collapsing; lay the groundwork for advance contract payments; facilitate insurance for otherwise non-insurable risks, extend contract deadlines and provide for correction of "ambiguities."

Senate Judiciary Committee balked last year before granting reluctant extension, may squawk again. But government and industry witnesses are banking on strong appeal that's been filed with the House.

The Defense Production Act—another key defense measure—sailed through Congress unopposed. Legislation extends for two years the government's power to set priorities for defense contracts, to exempt cooperating defense contractors from anti-trust laws, authorize defense loans, and provide emergency standby platoons of trained executives for wartime civil posts.

Note: Through the first quarter of the current fiscal year officials had okayed $2.9 billion under maximum 6% loan guaranty clause. Significantly, Congress is convinced for the moment shifting weapon emphasis will create bigger and bigger defense bills, concurs loan guaranty will be needed "for some time."

The national debt ceiling will have to be hiked again, probably to $290 billion. Congress is grimly resigned to this fact to allow the government to pay its huge defense bills.

No manufacturing tax relief this year. That's the verdict of Congress, which voted to extend corporation levies at the present 52% rate. For the airlines, however, hope flickered last week. The Senate voted to repeal 10% and 3% freight levies, sent it to conference committee manned, partly, by House members hostile to any tax cut.

Pleas to Congress by the ailing railroads for aid have promoted a comprehensive study of the whole transportation picture. Senators funded $100,000, hinted they will loosen the purse strings if more cash is needed. Senate Commerce Committee, or a special probing unit, will launch the study.

They will seek facts on government subsidy, consolidations and mergers, and the status of passenger transportation. This one is expected to provide no headlines, probably will run quietly through the summer and fall.

(Continued on next page)

←——Circle No. 115 on Reader Service Card.

MATS will likely ignore the proposed directive by Sen. A. S. Mike Monroney (D-Okla.) To bridle the military airline through the 1959 defense bill—unless Congress leaves no escape clause, industry observers say. Only alibis resulted from attempted MATS restriction in last year's bill, critics complain. Under this MATS was urged to give commercial carriers 40% of the passenger and 20% of the freight business. MATS' woes will be aggravated, too, when the House Government Operations Committee cuts loose its own reportedly searing report.

Any Senate changes in a House-passed bill to overhaul the Pentagon may run into stiff opposition from lower-chamber conferees. Senate Armed Services Committee chairman Richard Russell (D-Ga.) has already revealed plans to rewrite controversial provisions in the bill. Russell cited Traditional lower house resistance to conference changes on roll-call-approved measures.

Look for Congressman Glenn Cunningham (R-Neb.) to oppose the provision in airport aid bill which requires sponsors to commit federal aid within two fiscal years after getting grant. Cunningham feels that the two-year limit imposes "undue pressure" on communities to rush through their airport programs to avoid risk of losing the federal funds.

Community Facilities Bill (S. 3497) stands little chance of weathering the economy ax when it comes before House. The bill provides for government loans for airport construction, up to $2 billion. Money would come from deficit financing. Opponents say there is sufficient private financing for such projects.

Thorniest question as new budget cycle starts is what percentage of budget should be given to supporting forces in being, how much for new and more sophisticated weapons. Subsidiary questions involve how the pie should be cut up between competing and conflicting weapons.

American Airlines has had the fourth White House emergency board to be appointed this year assigned to help it out of its labor difficulties. No board members had been named, however, early last week.

Here's another reason why cash outlays for defense procurement never seem to stretch far enough. To back up research and development of complex new weapons systems, Pentagon officials are dipping into procurement accounts. In fact, it's reached a point, Congress has been informed, where Defense officials are borrowing more preproduction support R&D money than Congress allots to regular R&D accounts.

The Senate may yet authorize the UCX utility jet. House lawmakers lopped a requested $21 million earmarked for the AF jet transport, contending they saw no reason why pampered brass should be ferried around in executive planes. AF officials, in full cry, protested the mixup, told the Senate the UCX is really to train navigators; some Senators seem content with the explanation.

Easing of international travel restrictions will result from package legislation introduced recently by Senator Jacob Javits (R-N.Y.). The bill should answer Randall recommendations and renewed industry pressure for relief. A report to the President last April by Clarence B. Randall paved the way for an attempt to get action on the numerous anti-restriction bills either shelved or stuck in committee for years. The Consolidated bill seeks to encourage travel by relaxing passport rules and increasing amounts both U.S. and foreign tourists can bring into the U.S. duty-free. It also proposes lifting transportation taxes from foreign travelers on a reciprocal basis.

Decision was made last week by the Air Transport Association to oppose the bills now pending in both Houses of Congress to end all government subsidy help for the domestic trunk lines. Vote at the semi-annual ATA directors meeting was 7-2 to oppose. Feeling is that the bills have little chance of passage at this time, but if there is a sudden flurry of interest ATA's lobbyists are now instructed to do their best to block passage.

(Military/Manufacturing Airtrends on p. 15)

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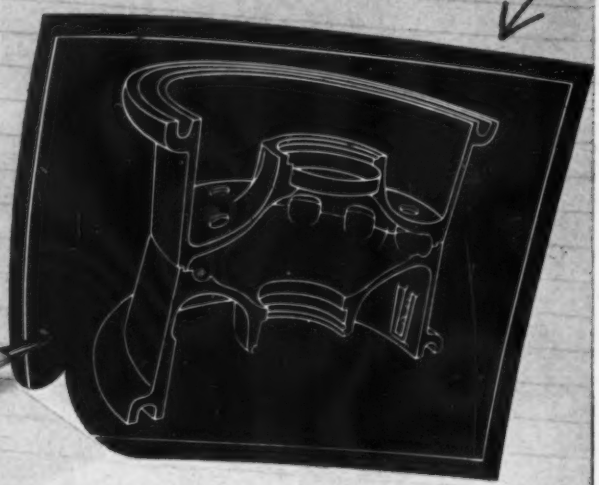

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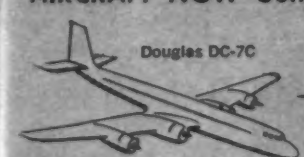

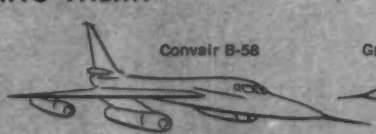

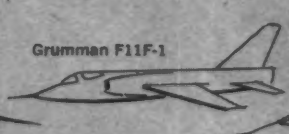

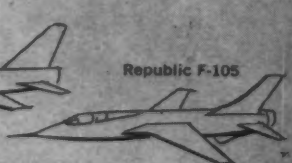

plus—Grumman F9F-8T, and F9F-8, North American FJ-4, Douglas F4D-1 and DC-8, Chance Vought F8U-1 and F7U-3, McDonnell F3H-2, Convair CV-880, Lockheed L-1649, Viscount 812

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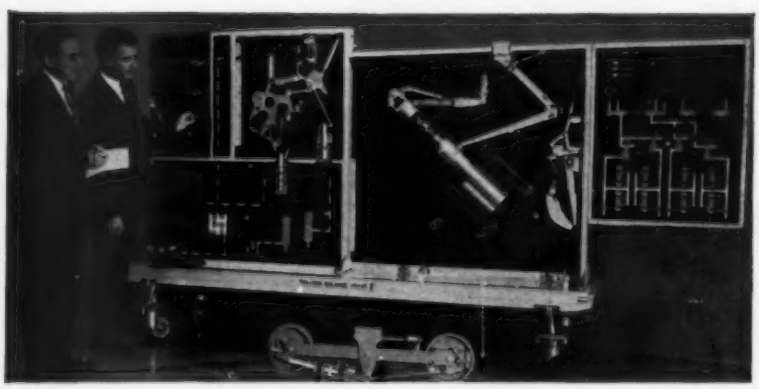
REPORT ON SERVICE SUPPORT

KEY MEN in the Boeing support program for 707 and 720 jetliners are service engineers assigned to customer airlines. Through them, the benefits of Boeing's unequalled experience with multi-engine jets—at all engineering, maintenance and management levels in the company—are available to airlines. Boeing service engineers have spent up to 10 years with multi-engine jets, and four years with the 707 jetliner prototype.

BOEING SPARES service is designed to hold airline costs to a minimum. To enable airlines to keep parts inventories low, Boeing stocks off-the-shelf spares and insurance parts, and can ship emergency requirements within hours of receiving the order.



TRANSITION TO JETS is being aided by complete Boeing training programs. They range from flight instruction for airline pilots to training courses for maintenance personnel, given by engineers with years of multi-jet experience. Complete manuals are available, and operable trainers, like the one illustrated above, are used to demonstrate 707 systems.

BOEING'S PROVISIONING program is built around an IBM system to speed service, simplify ordering and inventory control. Orders are reproduced on IBM cards, get immediate action.

These airlines already have ordered models of the Boeing family of jetliners:
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EDITORIAL OFFICES: 1001 Vermont Ave., N.W., Washington 5, D.C., U.S.A. Phone Sterling 3-5400. Cable: AMERAV. Advertising Offices: 17 East 48th Street, New York 17, N. Y., U.S.A. Phone: Plaza 3-1100.

BUSINESS OFFICE . . . Lawrence L. Brettner, Circulation Director; Frank R. Williams, Circulation Fulfillment Manager; Ellen P. Coakley, Advertising Service Manager.

REGIONAL OFFICES . . . New York City: 17 East 48th St., New York 17, N. Y., Robert Weston and Frederick W. Pratt, regional advertising managers. Phone: Plaza 3-1100. **West Coast:** 8943 Wilshire Boulevard, Beverly Hills, Calif., Fred S. Hunter, manager; John Ball, Jr., regional advertising manager. Phone: Bradshaw 2-6561, and Crestview 6-6605. **Canada:** Allin Associates, 12 Richmond Street East, Toronto 1, Ontario. Phone: Empire 4-2001, Allin Associates, 1487 Mountain Street, Suite 4, Montreal, Quebec. **Chicago:** 139 N. Clark St., Chicago 2, Ill. Richard K. Helwig, regional advertising manager. Phone: Central 6-5804. **Detroit:** 201 Stephenson Bldg., Detroit 2, Mich. Phone: Trinity 5-2555. Kenneth J. Wells, regional advertising manager. **Cleveland:** 244 Hanna Bldg., 1422 Euclid Avenue, Cleveland 15, Ohio. Phone: Prospect 1-2420, Donald E. Murray, regional advertising manager. **Geneva:** American Aviation Publications, 10 Rue Grenus, Geneva, Switzerland. Anthony Vandyk, European director. **London:** The AAP Company, 17 Drayton Road, Boreham Wood, Hertfordshire, England. Phone: ELStree 2688. Cable Address: STEVAIR, London. **Paris:** Jean-Marie Riche, 11 Rue Condorcet, Paris (9e). Phone: TRU 15-39 Cable Address: NEWSAIR PARIS.

PUBLISHING INFORMATION . . . Published: Every other Monday by American Aviation Publications, Inc. Washington, D. C. Printed at The Telegraph Press, Harrisburg, Pa. Entered as Second Class Matter in Washington and Harrisburg. **Subscription Rates:** For U.S. and Canada—$5.00 for 1 year; $8.00 for 2 years. Other countries—$7.00 for 1 year; $12.00 for 2 years. Subscription limited to aviation industry personnel. **Incorporates:** Airports and Air Carriers; Aviation Equipment; The American Pilot; Aviation Sales & Services; U.S. Aviation; and American Airports. All rights to these names are reserved. **Change of Address:** Send old address (exactly as it appears on mailing label on your copy of magazine) and new address, including zone number if any to American Aviation, 1001 Vermont Avenue, N.W., Washington 5, D. C. Allow two weeks for changeover.

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JUNE 30, 1958—VOL. 22, NO. 3

AMERICAN AVIATION

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Sure Thing for '58—FAA

The outlook for a new Federal Aviation Agency designed to unify air traffic control for the country became immensely brighter when President Eisenhower sent a message to Congress advocating a bill very similar to that already set in motion by Senator Mike Monroney of Oklahoma.

Unless unforeseen obstacles arise, action is certain at the current session of Congress—about a year in advance of earlier timetables.

The President's action was not the only good news. It was good news, too, that Congress and the White House are very close together in their proposals.

It is no secret that the Air Force made a last-ditch stand to place all air traffic control under its own wings, with uniformed men in charge. But under reconciling maneuvers by Presidential Aide Elwood "Pete" Quesada, USAF has gone along with White House desires in retaining civilian control—but of course with the military partnership it should have.

The stature of Quesada, a retired USAF general, has continued to increase in recent months as the legislative program became more clear. It is regrettable, but true, that mid-air collisions have contributed both to the speed in legislative action and in compromising differences of opinion. But Quesada's groundwork has been solid and he has emerged as a powerful factor in hammering out some worthwhile net results.

At this writing the major dispute which Congress must iron out involves the role—if any—that the Civil Aeronautics Board will play in rule-making and safety. In our view this is not a serious matter compared with the over-all benefits of a new FAA. Nor is it likely to block passage of the bill this year.

Keep Your Eyes on Mr. Hector

Mr. Louis J. Hector is a man to watch. He is the most recent member of the Civil Aeronautics Board, a Democrat from Miami, and obviously a man who knows his own mind and isn't afraid to take a stand.

He first came into focus sharply when he dissented in the States-Alaska fare case early in May. He took this occasion to blast the Board's fare policies in general. He deplored the uncertainty and confusion that the Board's fare policies have created for both public and carriers. And he made a statement that makes sound sense but was nonetheless quite startling for a CAB member: That the Board should let carriers set such fares as their own business judgment recommends, provided such fares are not unjust or unreasonable.

Then in mid-June Mr. Hector really came to the front in dynamic fashion when he repudiated strongly the activities of Robert L. Kunzig, CAB executive director, and set in motion a demand for Kunzig's dismissal.

Seems that Mr. Kunzig, who claims to have important Republican political connections, has been taking it upon himself to dominate political activities of the CAB (which have been retained in the past by the chairmen themselves) and to strike out at critics of the Board.

Mr. Kunzig did not like the testimony given recently by W. A. Patterson, president of United Air Lines, which was critical (justifiably so) of the CAB's safety actions. Not only did Mr. Kunzig berate one of United's Washington officials but indicated retaliation against United. Not only that, but we know of at least one airline approached by Mr. Kunzig with the request that it take positive steps to counter Mr. Patterson's criticism.

There is no doubt whatever that Mr. Kunzig's usefulness at the CAB is ended, or so diluted as to make him ineffective—despite the defense put up by Chairman James Durfee. It has been no secret at all that Mr. Kunzig has often overstepped the bounds of propriety and of his limited authority.

But out of the whole weird episode of attempted browbeating of an airline president, what strikes us as being highly significant is the forthright and courageous manner in which Mr. Hector stepped forward without hesitation to speak his mind in the interest of CAB integrity. In these days when personal conviction is more rare than it should be, it is refreshing indeed to observe Mr. Hector. He is a man to watch.

It's Worth Trying For

There is a chance, but only a chance, that Congress will eliminate the 10% passenger transportation tax and the 3% freight tax at the current session. As this issue went to press the answer rested with a Senate-House conference committee, the Senate having voted their elimination in a somewhat surprising development.

If the present drive should be successful, air transportation would be a major beneficiary, although the motivating reason for the action is an effort to help the railroads.

Repeal of this obnoxious tax would be the equivalent, as far as the traveling public is concerned, of a fare cut in all forms of transportation. It would be a positive anti-recession step. It would also eliminate a great deal of costly and time-consuming paper work at ticket counters and accounting offices.

All aviation interests should get behind the repeal move. Now is the time to let Congress know that the repeal is needed.

Wayne W. Parrish

Arizona's Governor, former U.S. Senator Ernest McFarland, boards Apache commuter express at Sky Harbor for business trip to Nogales, Arizona.

Another in a series on commercial aircraft operations . . . why light aircraft, like all major airlines and business fleets, use Champion Spark Plugs. Noted aviation authority reports on APACHE AIRLINES'

Desert Express

by

HERB FISHER

International aviation authority, veteran test pilot, author

● In a land once left to wind, sun and Apaches, the world's longest municipal airstrip shimmers in 120-plus heat. A TWA Constellation lumbers in. A jet bomber, built there, roars off. An American DC-7 disgorges squinting passengers—participants in modern Arizona's expanding wonderland of industrial, mining, resort and agricultural progress.

At Gate 1, Tucson Municipal Airport, three men with brief cases board a tiny, air-conditioned Bonanza, desert-hued in pastel paints. Three businessmen. A doctor, a lawyer, an Indian Chief.

Clock says 2:15.

The world's smallest intra-state certificated scheduled airline rams its "commuter express" down a fraction of the 15,000-ft. runway . . . past bombers, giant airliners, modern factories . . . over the "young-skyscraper" skyline of mushrooming Tucson . . . into the 50-degree "chill" above the 9,000-ft. Santa Catalina Mountains.

Forty minutes from Tucson takeoff, the *Apache Airlines* business commuter drops from sunny skies to Sky Harbor Airport, Phoenix, swank crossroads of a nation. Minutes later, engine hot, Apache wings back toward Tucson—with a senator, a mayor, a rancher.

To the southeast, meanwhile—in the one-time stronghold of Geronimo, Cochise and Satanta—another Bonanza slips through legendary Apache Pass to Sierra Vista and historic Fort Huachuca, bloody frontier outpost and modern-day Army Electronics Proving Grounds. Time from Tucson: 20 minutes. Passengers: A colonel, a scientist, a technician. Freight: The usual items requiring special handling or immediate delivery—plus a delicate bouquet of roses for a G.I.'s lady friend.

Apache swings by new Tucson tower adjacent new municipal airstrip, world's longest. Tucson Airport Authority celebrates Ten Years of Aviation Advancement ($6 million airport improvements) October 18-19 with dedication of complete new airport facilities and base for 152nd Fighter-Interceptor Squadron of Air National Guard. Tucson Airport Authority forecasts for next decade: "Best airport in the West for jets."

At the Mexican border, a third Apache Airlines commuter rises from Nogales International Airport, campsite of Spanish *conquistadores* four centuries ago. Enjoying spectacular scenery from the relaxful cabin are a mining engineer, Mexican envoy and University of Arizona official . . .

Back in Tucson, a wiry Westerner sweats over torn-down engines in one of Tucson Aviation Company's many hangars. Phone jangles. He talks, slips quickly from coveralls into Western business garb, taxis a fourth desert-hued Apache commuter to Gate 1, makes rapid flight preparations. Six businessmen arrive. Then two Beech Bonanzas dart over the mountains on the same scheduled run.

The A&E mechanic piloting the extra section is "Mr. Bonanza" himself—M. L. "Babe" Clements, quiet, soft-spoken owner and president of both Apache Airlines and Tucson Aviation Co., and a state CAA Maintenance Inspector. He's "Mr. Bonanza" in aviation circles because they say he knows more about flying and maintaining Bonanzas than nearly anyone else. Some 7,000 of his nearly 10,000 hours have been in Bonanzas—and many times that number "under-the-hood" in Bonanza engines and airframes.

Herb Fisher

A top mechanic with TWA until 1941, Flight Line Superintendent for Consolidated Vultee during the war, Babe started Tucson Aviation in 1946. Today it is sales and service center for much of the Southwest's light aircraft, and for northern-based aircraft of the Mexican government—maintenance to major overhaul. TA also provides precision flight instruction — classroom and aloft — for businessmen and University ROTC units. TA flies charter and contract missions—Cessnas and Bonanzas under U.S. Forest Service contract, for example. In the remote, pine-covered Catalinas north of Tucson, Babe and his men dropped 4,200 pounds of supplies to firefighters in a single day last summer.

Apache Airlines began just a few months ago as a natural outgrowth of

Apache Airlines moves proudly over ancient Apache trails skirting snow-crowned Santa Rita Mts., rising along Mexican border from famed Saguaro cactus forest. Champion-fired Bonanza has automatic rudder control for rough-air comfort; plush cabin is air-conditioned. Pilot: Babe Clements.

Tucson Aviation—a natural outlet for a man steeped in maintenance . . . a perfectionist, who won't send a plane up with a harmless oil smudge on a cowling; a dynamo, who doubles as pilot or mechanic far into the night, cleans shops or washes planes on Sundays, returns at midnight to personally put brake lining on a plane—and hasn't had a day of vacation in ten years.

Babe's commuter and international airline feeder service now carries over *1,000 persons a month!*—and he's planning route expansion to other cities in the business-booming Grand Canyon State.

Constant engine-straining takeoffs from airstrip elevations as radically varying as *1,100 feet* at Phoenix and nearly *5,000 feet* at Ft. Huachuca . . . continuous, engine-burdening, high-RPM "climbing-out" at drastically different altitudes—26 times daily, every day . . . engines heating to near-maximum temperatures, cooling rapidly, then again heating quickly . . . all this, compounded by other operational detriments such as Mexican fuels and flight infiltration of fine abrasive sand—*that's why "Mr. Bonanza" sweats long hours balancing and perfecting his engines with the very finest products of American engineering.*

"We've had long experience with many kinds of aircraft and their vital components in this grueling proving ground," Babe says. "And you just *can't beat a Beech Bonanza fired to life by Champion Spark Plugs.*"

Babe has obtained CAA authorization for 1,000-hour engine overhauls instead of the usual 800—despite Arizona's wicked extremes of heat, elevation and elements! Champions have been instrumental in making this possible:

"Though I could get 1,000 hours on Champions in Bonanzas easily—I've done it—I actually replace plugs much sooner," Babe says. "My mechanics tell me I'm crazy, 'cause the plugs are still practically good as new. But the point is—that's *how* I get peak engine performance right up to the 1,000-hour major: minimizing wear by keeping vital components new and clean all the time . . . reducing engine load and vibration by balancing . . . requiring my pilots to refrain from the common practice of RPM overloading despite its economy.

"Since an engine's life and reliability depend *so much* on the spark plug, we *must* use only the most dependable plug. Charles Hoefelmann of General Aviation, the Champion distributor here, gives us quick service on the *very best.*"

Spanking this hustling baby airline to maturity in safety and service perfection with Babe are several "old-timers" in aviation: The four regular and two stand-by pilots have a galaxy of experience and professional ratings—CAA-certified A&E mechanics, for example; they have an average flying time of 8,000 hours, an average age of 39, and all are family men with children. Like Babe, they live, eat, sleep, and breathe aviation . . . and are genuinely proud of the dauntless Apache spirit they've ingrained in the character of their modern young airline flying ancient Apache trails.

R.W.F. "Bob" Schmidt, retiring President, American Assn. of Airport Executives, and Manager, Tucson Airport Authority, greets Tucson Mayor Don Hummel, in from business trip via Apache commuter (l/r). Pilot: Charlie Jenkins.

Night maintenance at Tucson Aviation Co. Upper left, Apache commuter comes in with landing lights on.

"Champions in Bonanzas—the perfect combination," Babe Clements (r) tells Tony Orgain, Champion Representative, and Charles Hoefelmann, Champion Distributor (l/r).

Champion Spark Plug Company

LETTERS

About ALPA's troubles

The (Name withheld) UAL Captain letter appearing in your June issue begins to touch on the source of all the pilot union troubles—ALPA headquarters and powers-that-be. This union is democratic only on the local level; its various headquarters-appointed committeemen eventually reach decisions which agree with those which were desired prior to the formation of the committee.

The membership did NOT vote on a policy that the "third man" need be a pilot so how did this conflict happen to come about when the record shows that (a) Primarily a large number of continental-confined pilots did not want any "third man" in their cockpit. (b) Those pilots who, during the war, flew internationally, appreciated the assistance of the "third man" as did the various airline companies when he was required. (c) The "third man," who has been trained basically and who has served as a mechanic or engineer specialist, is as a rule better able to serve as a flight engineer. He can assist the pilot with a mechanical-and-engineering-operational explanation of the various aircraft units and their functions and thereby provide the additional information upon which the pilot can more easily make decisions.

ALPA has had for years a grandiose idea of representing all branches of airline employees and certain people of ALPA desire power and position comparable to the leaders of this country's other large unions. Stepping stones to this position are money (dues) and membership. So during prime conditions coupled with the lackadaisical attitude of many toward union affairs, ALPA increased its dues requirements and at the same time put into effect the dues refund, dues discount, followed by group insurances and a mutual aid plan.

These so-called benefits drew the money in like a magnet and increased the membership as planned, as it is only human nature to get as much as possible for as little as possible. These widely advertised benefits with misleading financial comments concerning how much is provided for so little in dues have brainwashed the pilots to the point where they are rapidly becoming dependent upon the union for their entire future and family's welfare.

As each individual airline pilot group has its own contract, each differing in respect to salaries, working conditions, future benefits, expenses, etc., so each group should be able at any time to call their own shots as to what they desire, will settle for and how to reach their goal—strike if necessary. Yet this is not the case! Believe it or not the Powers-that-Be have plenty to do with these things.

Now once aboard the membership/money bandwagon, the dues refund gradually diminishes, the group insurances become more costly and the individual finds that some of his earlier freedoms of expression are lost. Dues are about to be increased!

To put it simply, when the flight engineers began to be unionized, ALPA managed to secure jurisdiction over a few lines. Those engineers under ALPA rapidly became aware of the fact they had no mind of their own and, not wanting to be led along a mythical path to a rosy future, they requested FEIA representation with its more beneficial setup which to date has well proven its merits.

For the dues money paid annually, it would be much preferable for ALPA to revert back to its original organizational objectives which were mainly the securance and maintenance of pilot contracts and desirable working conditions.

Name Withheld
Captain
American Airlines

AMERICAN AVIATION *offers these columns to readers for expression of opinion and criticism on the editorial content of this magazine and/or happenings in the aviation industry. Address such correspondence to Joseph S. Murphy, Executive Editor, American Aviation, 1001 Vermont Ave., Washington 5, D.C. Anonymous letters will not be printed; however, names will be withheld on request.*

About Those Data Cards

Your series of Aircraft Data Cards is a most concise and accurate source of information. Are these available in a complete, up to date set? If so, I would appreciate your sending me information regarding the acquisition of such a set.

Jack Simon
News Bureau
Boeing Airplane Co.

EDITOR'S NOTE—AMERICAN AVIATION plans to reprint a smooth-edge edition of the Aircraft Data Cards at the end of each year. Price and procedure for obtaining such a set will be made known at a later date.

Foreign Jobs for Pilots

I recently read an article you wrote in the June 2 issue of AMERICAN AVIATION (p. 55) entitled "Not Enough Pilots." I am presently an Air Force pilot on active duty with intentions of resigning and desire a position with the airlines. I was interested in this article, regarding the shortage of qualified pilot applicants of several European airlines and would appreciate any further information you might have concerning these airlines (including addresses) or persons I may contact.

Joseph A. Schoeler, USAF
OMR Box 191
Craig AFB, Alabama

EDITOR'S NOTE—The European airlines listed here have requirements for qualified transport pilots:

KLM Royal Dutch Airlines, Plesmanweg 1, P.O. Box 121, The Hague, Netherlands.

Sabena Belgian World Airlines, Air Terminus, Brussels, Belgium.

SAS Scandinavian Airlines System, Bromma Airport, Stockholm 40, Sweden.

Swissair, Hirschengraben 84, P.O. Box 929, Zurich, Switzerland.

When & Where

JULY

All-American Aviation Exposition, Pittsburgh-Connellsville Airport, so. of Pittsburgh, July 4-6.

Northeastern States Soaring Championship Contest, Elmira, N.Y., July 4-6.

Annual All-Woman Transcontinental Air Race, San Diego to Charleston, S.C., July 4-8. (For details write: Air Race, Inc., 2611 E. Spring St., Long Beach 6, Calif.)

Institute of Aeronautical Sciences, national summer meeting, Ambassador Hotel, Los Angeles, July 8-11.

National Air Races, Royal Aero Club, Baginton Airport, Coventry, England, July 10-12.

Triennial Inspection, NACA Ames Aeronautical Lab., Moffett Field, Calif., July 14-15.

Assn. of Local & Territorial Airlines, quarterly regional meeting, Denver, Colo., July 24-25.

AUGUST

National Flying Farmers Assn., convention, Hotel New Yorker, New York City, Aug. 11-15.

Experimental Aircraft Assn., annual fly-in & convention, Milwaukee, Wis., Aug. 8-10.

Institute of Radio Engineers, western electronic show & convention, Ambassador Hotel, Los Angeles, Aug. 19-22.

SEPTEMBER

Society of British Aircraft Constructors, flying display & exhibition, Farnborough, England, Sept. 1-7.

International Aviation Show, Coliseum, New York City, Sept. 6-14.

Air Freight Cartage Conference, Air Cargo, Inc., Hotel Sherman, Chicago, Sept. 9-10.

American Rocket Society, fall meeting, Hotel Statler, Detroit, Sept. 14-18.

National Business Aircraft Assn., annual meeting, Bellevue-Stratford Hotel, Philadelphia, Sept. 22-24.

Society of Automotive Engineers, aeronautic meeting, aircraft production forum, Ambassador Hotel, Los Angeles, Sept. 29-Oct. 3.

CHANCE VOUGHT's *Regulus II* supersonic missile for the U. S. Navy uses essential Hamilton Standard equipment. This installation is another example of Hamilton Standard's leadership in the design and production of equipment, propellers, or electronic components for more than 50 modern types of turbine or rocket powered aircraft and missiles.

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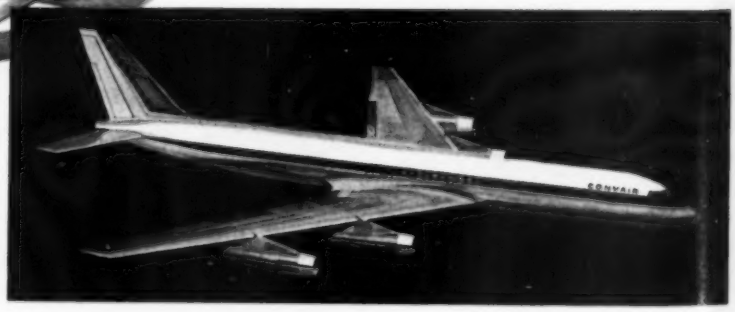
"There shall be wings! If the accomplishment be not for me, 'tis for some other."

LEONARDO DA VINCI (1452-1519) genius of the Renaissance, who wrote the first treatise on the mechanism of flight in 1505.



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Among airlines first to offer Convair 880 Jet-Liner service will be TWA, DELTA, TRANSCONTINENTAL *(Argentina)*, **REAL-AEROVIAS** *(Brazil)*

AIRTRENDS

Edited by Elizabeth Oswald and Albert Bentz

TAC may be cut back faster than planned if—as is indicated—the Strategic Air Command wins the battle to assume major responsibilities in a limited war. The clue to a possible SAC victory is seen in Defense Secretary Neil H. McElroy's claims for the limited war capabilities of the B-47 medium bomber.

GE's T58 product-improvement program may soon start to pay off. Army is buying 10 Vertol 107 helicopters, each propelled by two turboshaft engines. Seven will be equipped with GE T58s. Performance of the helicopters will be evaluated to help determine future production program.

Air defense may be victim of economy wave at Department of Defense. A study now under way aims at consolidation of programs. The issue is: What should be the product mix of fighter interceptors, Bomarcs and Nikes (Hercules) now that planners assume that attack would probably use missiles?

Defense continues in second place behind the strategic forces and may drop to third place if the Army wins a battle for a higher priority on its plans to repel limited wars.

Behind-the-scenes push is for transport to carry weapons and men. Need is building up for aircraft capable of providing logistic support for major missiles. Need is also seen for more early-warning-type aircraft with improved radar to help close the doors through which attackers might come without notice from DEW Line and other warning radar lines.

Look for full U.S.-Canada partnership on air defense now that Canadian Parliament has approved the North American Air Defense agreement. Expectation is that nine squadrons of RF-100s will join the forces now under control of Continental Air Defense Chief, Gen. Earl Partridge, and his deputy, Air Marshal Roy Slemon, formerly RCAF Chief.

Biggest procurement mystery is how Air Force will provide machinery to assure contractor responsibility for timely performance of new "team" development contracts awarded in the Dynasoar competition. Seemingly ARDC is moving away from the single contractor approach used on the B-58 for the development of the boost-glide craft which Defense Secretary McElroy is leaving to the Air Force as a "manned aircraft."

"Open Skies" inspection can work, according to General Bronze Corp., if the potentialities of new airborne infrared devices with a high degree of selectivity are fully developed. Company believes new devices could find subterranean plants.

Big new airlift is in the making. Some say it's bigger than the DEW-Line program. But it's likely to be a year away and whether it happens at all could depend on the availability of funds. Guess is that it will serve a new ballistic missile early-warning system and perhaps the vast new Pacific missile test range.

Quiet bets are being taken on the possibilities for success of plans to reorganize Pentagon's public information services. Favorite position is: "This too will pass out of the picture." Upper House Congressmen are asking: Why should a legislative liaison system that has worked well in the past be turned over to Asst. Secretary Murray Snyder's heavily criticized information office, from which Senators have already had trouble getting straight answers?

Look for renewed design activity at Boeing-Wichita. Boeing has assigned its Wichita Division the job of coming up with new proposals for lighter-type aircraft. Division already has a number of new paper designs, several of which are tied in with the Lycoming T53 and T55 and the Allison T56. Latter are aimed at Army Logistics requirements. Wichita has generally been producer of Boeing-designed aircraft, but has come up with a number of design proposals in the past.

First Dynasoar may cost $500 million, or more. Although there is only about $5 million now available, some Pentagon observers believe initial estimates of

(Continued on next page)

MILITARY/MANUFACTURING AIRTRENDS

$150 million for first aircraft is too low. "There'll have to be a lot of breakthroughs and these will cost money," a Defense spokesman said.

Sikorsky says first flight of S-61 still is a long way off. But the company probably will be flying a turbine-powered version of its S-58 before the end of summer. This twin-turbine copter could be a prototype for the big S-61 transport (20-25 passengers).

Close study of contract announcements by Army, Navy and Air Force, indicates that alleged service jealousies are not carried over into contractor relationships to any large extent. In appropriate cases, Army, Navy and Air Force are all making use of the same industrial know-how.

Army pleas for a new big transport aren't going unnoticed. Army may not be getting through to Air Force, which would have to do the buying, but the air-frame manufacturers aren't sitting still. Douglas still is pushing its scrapped C-132 program for the job and Boeing is reported ready to toss several paper projects into the hopper when Army finally firms up exactly what its requirements will be.

MILITARY/MANUFACTURING SIDELIGHTS

Off Beat—Newsweek's description of Douglas DC-8 "powered by four 15,000-lb. thrust Curtiss-Wright J75 engines."

No sidewalk job—Air Force has an operational requirement to remove 4 in. of snow from a 10,000 ft. runway 300 ft. wide in 30 min. This adds up to 1 million cu. ft. or a rate of 33,333 1/3 cu. ft. per minute.

Nuclear physicist but no mathematician—Herb Caen, "San Francisco Chronicle" columnist, reports a busboy in a cafeteria there has a master's degree in nuclear physics. Sounds incredible, but Caen says a recent divorce left him penniless and his refusal to sign a loyalty oath keeps him from working in his chosen field. Kicker in the report, though, is that a while back he was promoted to counterman, but couldn't hold the job. This nuclear physicist, it turns out, can't add.

From Tokyo raider to museum—North American Aviation is duplicating Jimmy Doolittle's B-25B Tokyo bomber for the Air Force Museum at Wright-Patterson by modifying a B-25D "backward." When NAA started looking for a "B" to donate to the museum in honor of the raid, it couldn't find one. But recently it scouted out an RB-25D and made plans to renovate it back into a "B." After it is flight-tested, the Doolittle Raider was taken to Las Vegas where it was presented to Gen. Doolittle at the annual gathering of the raiders.

Realistic appraisal—Roy E. Marquardt, president of Marquardt Aircraft Co., has this to say about educating new scientists and engineers: "Let's face it . . . there is no current shortage of engineers.

"Our California state employment service reports that professional job openings listed for graduate engineers are down to 13½% of what they were a year ago. I am sure that the group of high school youngsters graduating this year are aware of this condition.

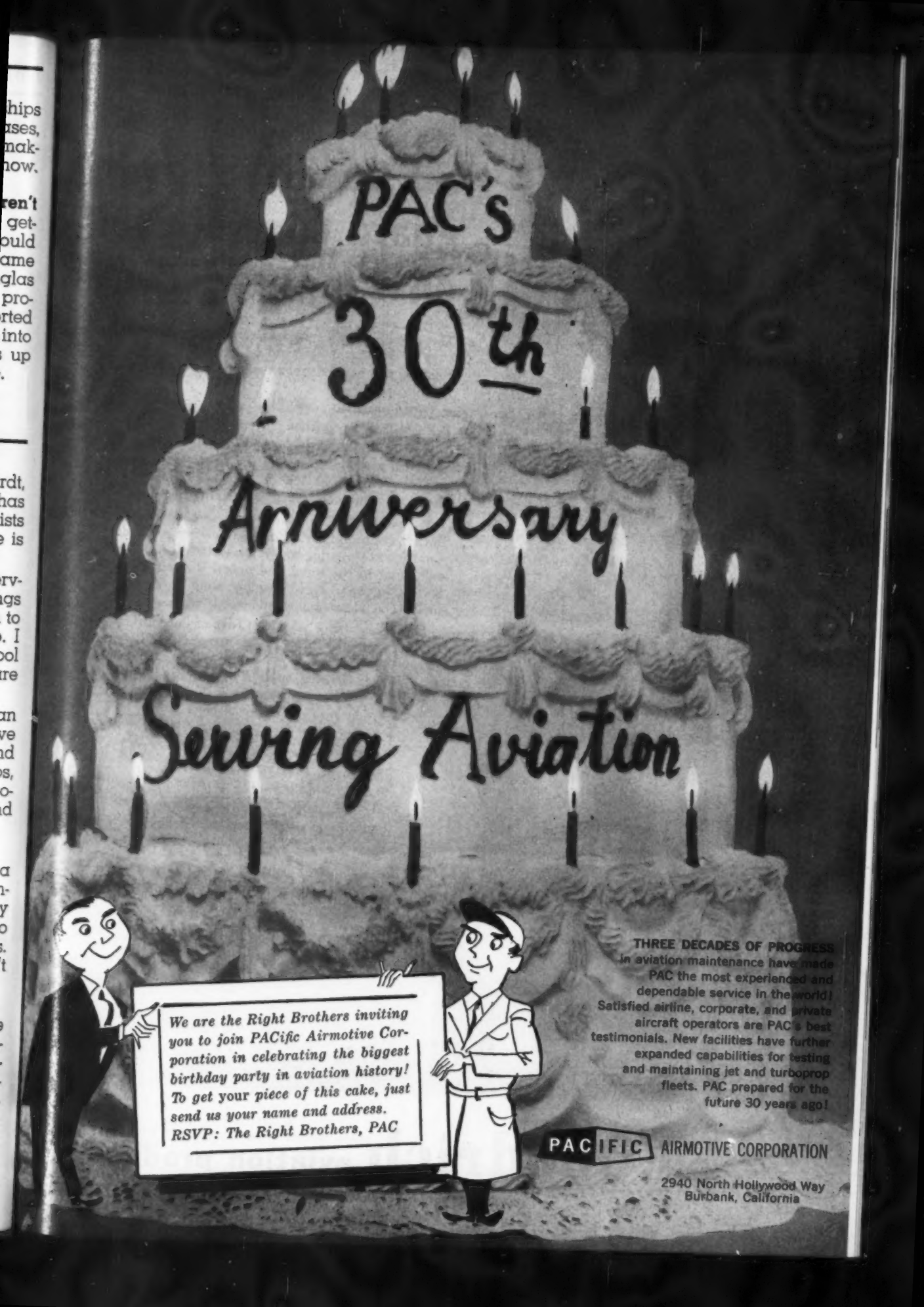
"Our kids are smart: Unless we can show them that they are going to have some job stability in the research and development field, all the scholarships, grants and prizes in the world aren't going to get many of them into science and engineering."

Knobby problem—USAF has completed a study indicating that most people are inclined to turn knobs clockwise when they want to increase and counterclockwise to decrease whatever it is the knob controls. And the sex of the knob-turner doesn't make any difference, they say.

'Vistavision' in Electra—Flight crews have dubbed the view seen from the flight station of the Lockheed Electra as 'Vistavision." Only cockpit modification contemplated by Lockheed at this time is bird-proofing of the large side panels, now required by the CAA.

(Transport Airtrends on p. 57)

Circle No. 116 on Reader Service Card. ——→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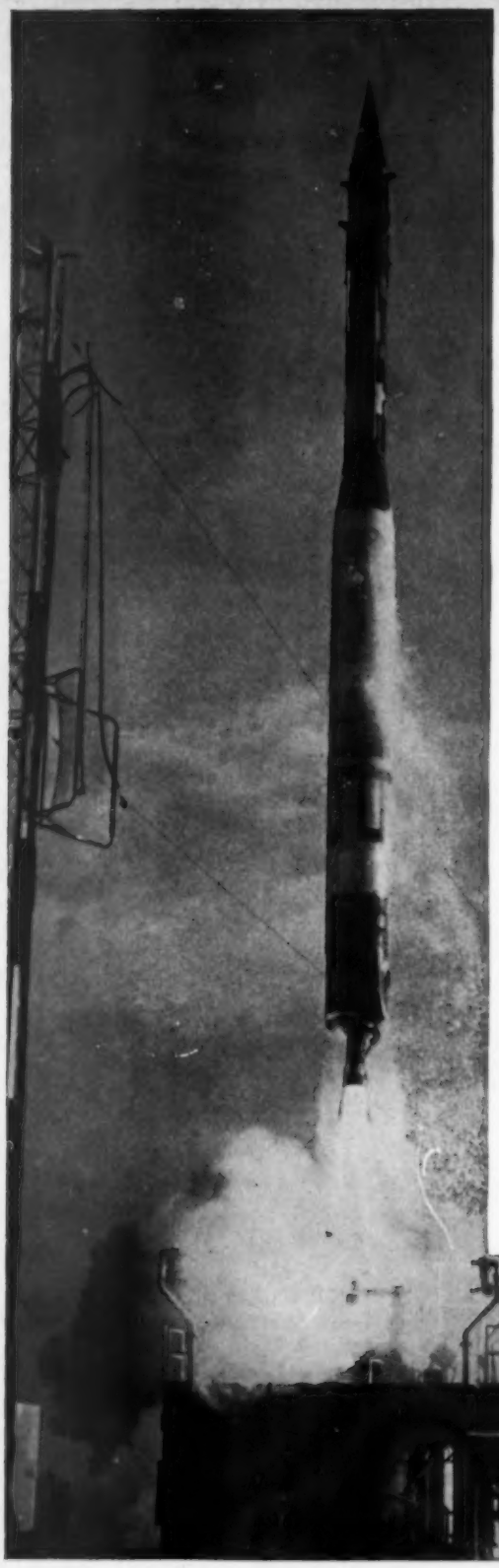


B.F.Goodrich

B.F.Goodrich Rivnuts® guard control cables on Vanguard rocket

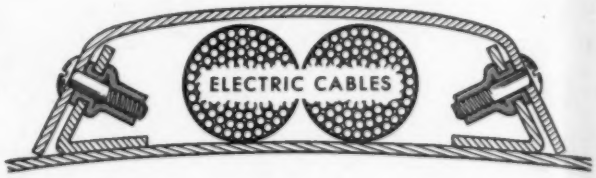
They couldn't put the electrical control cables *inside* the second stage of the Martin Vanguard rocket because of the integral fuel tanks. So they ran the cables *outside*—and protected them with a special cover.

To fasten this cover to the rocket, project engineers chose B.F.Goodrich Rivnuts—for two reasons.

First, B. F. Goodrich Rivnuts provide a vibration-resistant nutplate that won't jar loose in flight. The cover always stays solidly in place. Second, with Rivnuts the cover can be removed and replaced as many times as necessary during pre-flight preparations.

B. F. Goodrich Rivnuts, the only one-piece blind fasteners with threads, can be installed by one person—from one side of the work—in seconds. Upsetting is easy. Just thread the Rivnut on the header tool, insert in the work, and upset. In every kind of operation Rivnuts are used to speed assembly—simplify fastening jobs in thin sheet metal, plastic, rubber and wood.

Find out how B. F. Goodrich Rivnuts can solve fastening problems in your orbit. Send for the free Rivnut Demonstrator that shows—with motion—how Rivnuts can be used to fasten *to* and *with*. Write: B.F.Goodrich Aviation Products, a division of The B.F.Goodrich Company, Dept. AA-68, Akron, Ohio.



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AMERICAN AVIATION

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Directory of Transport Aircraft

THE multi-billion dollar business of building the world's air transports for the next two decades is bulging at the seams with competition.

Spurred by the healthy predictions of growth in both the common carrier and general aviation fleets over the next 20 years, a potent new force of planebuilders is emerging on the horizon.

Against this backdrop of activity, AMERICAN AVIATION conducted its own inventory of the world's air transports and came up with this, the First Annual Directory of Business and Transport Aircraft.

The following pages depict the hardware complete with photos and a uniform set of specifications of the contenders for today's revenues and tomorrow's sales.

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Boeing 707-120

TYPE: 110-130 passenger, four-engine, commercial jet transport. DIMENSIONS: L—144′ 6″; span—130′ 10″; H—38′ 7″. WEIGHTS: empty—113,640 lbs.; gross—248,000 lbs. POWERPLANTS: (4) Pratt & Whitney JT3C; normal st —11,000 lbs. PERFORMANCE: max. cruise speed —591 mph; max. range with 17,400 gal. fuel capacity—3,330 mi. MANUFACTURER: Boeing Airplane Co., Transport Div., Renton, Wash. REMARKS: The 707 is being produced in the following versions, some models differing slightly in size, powerplants and performance: Boeing 707-220, -320, -420. Orders total 162 by 14 airlines.

Douglas DC-8 (Domestic)

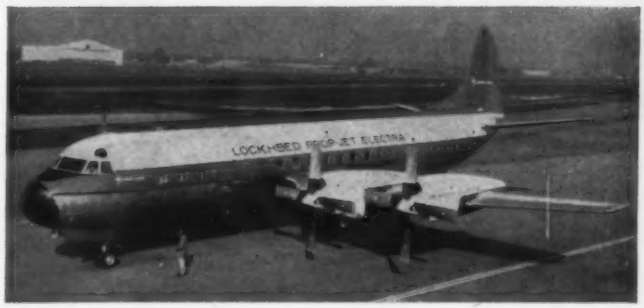
TYPE: 116-176 passenger, four-engine, commercial jet transport. DIMENSIONS: L—150′ 6″; span—139′ 9″; H—42′ 4″. WEIGHTS: empty—122,698 lbs.; gross—265,000 lbs. POWERPLANTS: (4) Pratt & Whitney JT3C-6; normal static thrust—11,200 lbs. PERFORMANCE: max. cruise speed—561 mph at 30,000′; max. range with 17,600 gal. fuel capacity—3,900 mi. MANUFACTURER: Douglas Aircraft Co., Santa Monica, Calif. REMARKS: The DC-8 is the second U.S. commercial jet transport to be produced. A total of 143 of these jets have been ordered by 18 airlines.

...Transports—Turbine-Powered

Fairchild F-27 Friendship

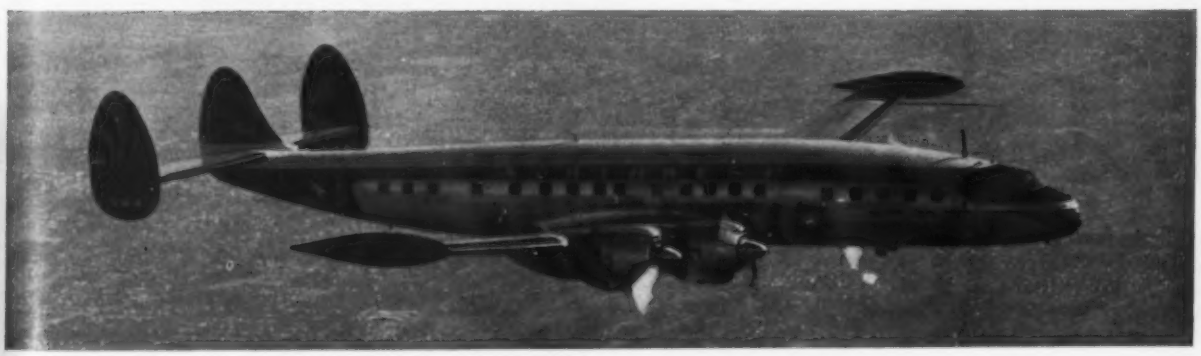
TYPE: 32-40 passenger, twin-engine, commercial turboprop transport. DIMENSIONS: L—77' 1"; span—95' 2"; H—27' 6". WEIGHTS: empty—22,476 lbs.; gross—35,700 lbs. POWERPLANTS: (2) Rolls-Royce Dart RDa6 Mk. 511; normal eshp—1,600 plus 370 lbs. st. PERFORMANCE: max. speed—280 mph; cruise speed—275 mph; normal range—1,370 mi. MANUFACTURER: Fairchild Engine & Airplane Corp., Aircraft Div., Hagerstown 15, Md. REMARKS: The F-27 is a Dutch design and is being built in the U.S. under license from Royal Netherlands Aircraft Factories Fokker. Intended as a DC-3 replacement.

Lockheed 188 Electra



TYPE: 66-91 passenger, four-engine, commercial turboprop transport. DIMENSIONS: L—104' 7"; span—99'; H—32' 1". WEIGHTS: empty—55,993 lbs.; gross—113,000 lbs. POWERPLANTS: (4) Allison 501-D13; normal eshp—3,750. PERFORMANCE: max. speed—448 mph; cruise speed—407 mph; rate of climb—1,670 fpm; normal range with 5,360 gal. fuel capacity—2,740 mi. MANUFACTURER: Lockheed Aircraft Corp., Burbank, Calif. REMARKS: One of the new generation of turbine transports, the Electra is scheduled to enter commercial airline service this September. Total orders number 153 to date.

. . . Commercial Transports—Piston-Engine



Lockheed 1049G Super Constellation

TYPE: 63-99 passenger, four-engine, commercial transport. DIMENSIONS: L—113' 7"; span—123'; H—24' 9". WEIGHTS: empty—73,016 lbs.; gross—137,500 lbs. POWERPLANTS: (4) Wright R3350-DA3; normal hp—3,250. PERFORMANCE: max. speed—370 mph; cruise speed—355 mph; max. range—4,620 mi. MANUFACTURER: Lockheed Aircraft Corp., Burbank, Calif. REMARKS: This model is a development of the models 1049B (USAF: C-121C; Navy: R7V-1), 1049C and 1049E. The latest model in this series is the 1049H cargo/passenger version of the 1049G. All models differ slightly in type of engines, performance and structural arrangements.

Lockheed 1649A Starliner

TYPE: 58-92 passenger, four-engine, commercial transport. DIMENSIONS: L—116' 2" (with radar nose); span—150'; H—23' 5". WEIGHTS: empty—85,262 lbs.; gross—156,000 lbs. POWERPLANTS: (4) Wright 988TC18EA2; normal hp—3,400. PERFORMANCE: max. speed—377 mph; cruise speed—342 mph; rate of climb—1,080 fpm; max. range—7,200 mi. MANUFACTURER: Lockheed Aircraft Corp., Burbank, Calif. REMARKS: Designed for long over-water operations, the 1649A has a completely redesigned wing of thinner section than the earlier 1049 series.

. . . Commercial Transports—Piston-Engine

Douglas DC-6A Liftmaster

USAF: C-118A **Navy: R6D-1**

TYPE: four-engine, commercial and military cargo transport. DIMENSIONS: L—106' 6"; span—117' 6"; H—28' 8". WEIGHTS: empty—51,316 lbs; gross—107,000 lbs. POWERPLANTS: (4) Pratt & Whitney R2800CB-17; normal hp—2,500. PERFORMANCE: max. speed—360 mph; cruise speed—315 mph; rate of climb—1,000 fpm; max. range—3,400 mi. MANUFACTURER: Douglas Aircraft Co., Santa Monica, Calif. REMARKS: Slightly larger than the DC-6 which it supersedes. The DC-6B is a passenger version of the all-cargo DC-6A.

Riddle C-46R

TYPE: twin-engine, cargo or 50-passenger commercial transport. DIMENSIONS: L—76' 4"; span—108' 1"; H—21' 9". WEIGHTS: empty—29,300 lbs.; gross—50,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800; normal hp—2,100. PERFORMANCE: max. speed—260 mph; cruise speed—235 mph; max. range—1,800 mi. MANUFACTURER: Riddle Airlines, Inc., International Airport, Miami, Fla. REMARKS: The Riddle C-46R is an extensively modified standard C-46 designed to meet Civil Aeronautics Administration T-category requirements.

L. B. Smith Super 46

TYPE: twin-engine, cargo or 50-62 passenger commercial transport. DIMENSIONS: L—76' 4"; span—108' 1"; H—21' 9". WEIGHTS: empty—29,300 lbs.; gross—50,100 lbs. POWERPLANTS: (2) Pratt & Whitney R2800; normal hp—2,100. PERFORMANCE: max. speed—277 mph; cruise speed—232 mph; rate of climb—1,180 fpm; max. range with 1,400 gal. fuel capacity—2,200 mi. MANUFACTURER: L. B. Smith Aircraft Corp. and Aircraft Engineering Foundation. REMARKS: L. B. Smith is the second company to undertake major modifications of the CW20T/C-46 transports.

Douglas DC-7C

TYPE: 62-99 passenger, four-engine, commercial transport. DIMENSIONS: L—112' 3"; span—127' 6"; H—31' 8". WEIGHTS: empty—72,150 lbs.; gross—143,000 lbs. POWERPLANTS: (4) Wright R3350-18EA1; normal hp—3,460. PERFORMANCE: max. speed—405 mph; cruise speed—360 mph; rate of climb—1,050 fpm; max. range—5,000 mi. MANUFACTURER: Douglas Aircraft Co., Santa Monica, Calif. REMARKS: The DC-7C superseded the slightly smaller DC-7B which in turn was evolved from the DC-7. As of April, a total of 121 DC-7Cs had been built.

Comfort...Vertol 44...Brussels World's Fair

Among the many firsts on show at the Brussels World's Fair is the new multi-city helicommuter service which links the Fair grounds directly to airports in Paris, Rotterdam, Cologne and Bonn. SABENA Belgian World Airlines operates these flights right to the heart of the Fair... and Vertol 44 tandem-rotor helicopters play an important part in the operation.

These stable, comfortable craft are a logical choice for such an assignment. They can seat up to 15 passengers in their long, airliner-type cabin—provide a window next to every set of seats, a cabin-long luggage rack—and permit free movement in flight by passengers.

A lavatory is provided for long-stage flights. The cabins have been insulated against sound and vibration. All of it adds up to more fun, more comfort...more satisfied passengers.

Vertol 44's are also available as utility transports capable of airlifting up to 19 passengers or 2 1/2 tons of cargo. This version performs multiple duties in petroleum, mining, lumbering or construction.

VERTOL *Aircraft Corporation*

MORTON, PENNSYLVANIA

SUBSIDIARY: ALLIED RESEARCH ASSOCIATES, INC., BOSTON, MASS.

He Found Success in the Air

At California's Ontario International Airport, 35 miles from downtown Los Angeles, Shell dealer Les Farrar runs one of the fastest growing aviation service companies in America

As Les will tell you, to run a successful aviation service you must have top-flight products and equipment.

In his own words, "I was looking for an Oil Company that guaranteed quality products—quality service—down-the-line dependability. And I wanted the best dealer-supplier relationship available. I found Shell's approach similar to mine—a 24-hour readiness to go beyond the letter of a contract to be helpful."

So Les Farrar teamed up with Shell 5 years ago.

Today Ontario International Airport provides rapid, efficient fueling service for commercial, military, business and private aircraft . . . in fact just about anything that flies. Growth has been rapid . . . gallonage has increased *twenty* times in the five years Les has been with Shell.

How does he do it? Les picks up valuable merchandising tips from the Shell dealer magazine. And through the Shell Aviation Specialist, Les keeps posted on new ways to build the kind of service fliers want.

A key part of his service program is the Shell Credit Card System . . . a time-saver designed to help fliers meet exacting schedules.

Business is good at Ontario. In fact it is so good that Les is looking forward to expanding his facilities. Plans include a new 2,000-foot runway extension to accommodate the ever-increasing traffic.

The fine reputation of the Les Farrar Aviation Service is widespread and still growing. As for the future? Les himself will tell you that with Shell helping him in every venture—the sky's the limit!

Round-the-clock tower and modern all-weather equipment serve the airlines, a Forestry Service fire-fighting unit, an Air National Guard unit and turn-around customers.

Studying airport expansion plans (left to right) are Art Clark, vice-president of Les Farrar Aviation Services; Thomas E. Flaherty, Airport Manager; Fred Stewart, Shell Aviation Representative; and Les Farrar.

Giant military transports come to Ontario for modification by Southern California Aircraft Corporation and Lockheed Aircraft Service Corporation. They rely on Les Farrar for fine service and Shell for high-quality fuels and lubricants.

It pays to be a Shell Aviation Dealer

—and your nearest Shell Office will be glad to tell you why

SHELL

. . . Transport and Business Aircraft (cont'd.)

. . . Military Transports

Convair Photo

Convair R3Y-2

TYPE: U.S. Navy assault transport. DIMENSIONS: L—142' 6"; span—145' 9"; H—51' 5". WEIGHTS: empty—80,000 lbs.; gross—165,000 lbs. POWERPLANTS: (4) Allison T40A-10 turboprop; normal eshp—5,500. PERFORMANCE: max. speed—over 350 mph; cruise—300 mph; max. range—4,000 mi. MANUFACTURER: Convair Div. of General Dynamics Corp., San Diego 12, Calif. REMARKS: The R3Y-2 differs from the earlier R3Y-1 in that the nose section of the hull is hinged to swing upwards to permit loading of freight. Both models externally similar. Five 1s and six 2s were built.

Grumman SA-16B Albatross

TYPE: Twin-engine, general utility amphibian. DIMENSIONS: L—60' 8"; span—96' 8"; H—25' 10". WEIGHTS: empty—22,883 lbs.; gross—29,500 lbs. POWERPLANTS: (2) Wright R1820-76A; normal hp—1,425. PERFORMANCE: max. speed—242 mph; cruise—151 mph; rate of climb—1,320 fpm; max. range with drop tanks—2,600 n.mi. MANUFACTURER: Grumman Aircraft Engineering Corp., Long Island, N.Y. REMARKS: The SA-16B is an improved version of the earlier SA-16A. Wing span is increased 16' 6", enabling more fuel to be carried which gives corresponding increase in performance. SA-16A supplied to U.S. Navy and Coast Guard as UF-1. Eventually, it is intended to convert all existing SA-16As to the "B" configuration.

Dou

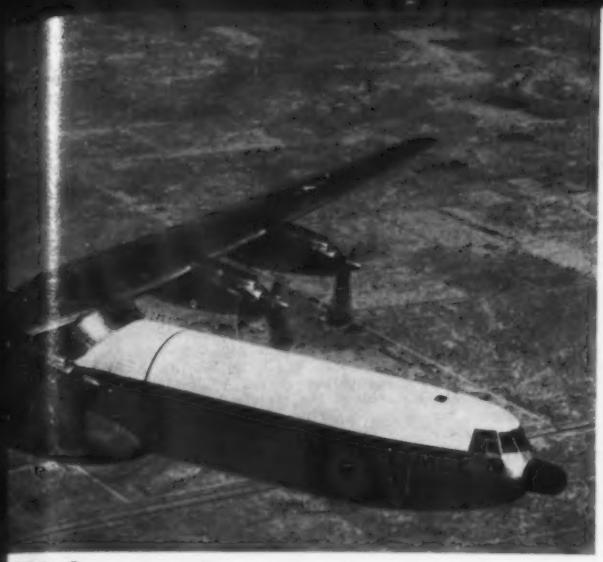
TYPE: 4-engine, cargo and missile carrier. DIMENSIONS: L—157' 6"; span—179' 8"; H—48' 3". WEIGHTS: empty—115,000 lbs.; gross—275,000 lbs.; max. payload—95,418 lbs. POWERPLANTS: (4) Pratt & Whitney T34-P-3 turboprop; normal eshp—6,000. PERFORMANCE: max.

Grumman Aircraft Engrg. Co

Fairchild C-123B Provider

TYPE: Twin-engine troop and cargo-carrying transport. DIMENSIONS: L—76'; span—110'; H—34'. WEIGHTS: empty—31,620 lbs.; gross—57,800 lbs.; payload—19,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-99W; normal hp—2,500. PERFORMANCE: max. speed—245 mph; cruise—190 mph; rate of climb—1,608 fpm; range—1,090 to 2,420 mi. MANUFACTURER: Fairchild Engine & Airplane Corp., Hagerstown, Md. REMARKS: Originally designed by Chase Aircraft Co., the C-123B is able to operate from small unprepared landing strips. Fairchild has built a total of 303 Providers for the USAF.

Fairchild Engine & Airplane Corp. Photo



33A Cargomaster

speed—355 mph; cruise—310 mph; rate of climb—1,240 fpm; range—1,300 mi. with max. payload. MANUFACTURER: Douglas Aircraft Co., Inc., Long Beach, Calif. REMARKS: Two loading doors at the rear of the fuselage facilitate the loading of most types of vehicles or bulky freight. Provision is made for the quick installation of roller conveyors for transfer of bulk cargo direct to truck-bed height fuselage floor.

Douglas C-124C Globemaster II

TYPE: 4-engine, military transport. DIMENSIONS: L—130′ 1″; span—174′ 2″; H—48′ 3″. WEIGHTS: empty—101,052 lbs.; gross—185,000 lbs.; payload—50,000 lbs. POWERPLANTS: (4) Pratt & Whitney R4360-63A; normal hp—3,800. PERFORMANCE: max. speed—298 mph; cruise—220 mph; rate of climb—800 fpm; range—1,320 mi. with 50,000 lbs. payload. MANUFACTURER: Douglas Aircraft Co., Inc., Santa Monica, Calif. REMARKS: Development of C-124A, latest model is 3′ 0″ longer with the installation of a radar nose. A total of 447 Globemasters were built up to termination of production in May 1955.

Fairchild C-119G

TYPE: USAF/Marines, twin-engine, cargo and troop transport. DIMENSIONS: L—86′ 6″; span—109′ 3″; H—26′ 3″. WEIGHTS: empty—39,920 lbs.; gross—74,400 lbs.; payload—29,400 lbs. POWERPLANTS: (2) Wright R3350-85; normal hp—3,500. PERFORMANCE: max. speed—285 mph; cruise—205 mph; rate of climb—1,100 fpm; range—1,000 to 2,290 mi. MANUFACTURER: Fairchild Engine & Airplane Corp., Hagerstown, Md. REMARKS: Same as C-119F but fitted with Aeroproducts airscrews. U.S. Marine Corps designation—R4Q-2. A total of 1,200 C-119s were built, the G series being the latest production type. One C-119H was built as an experimental model.

Lockheed C-130A Hercules

TYPE: 4-engine, medium assault transport. DIMENSIONS: L—97′ 8″; span—132′ 7″; H—38′. WEIGHTS: empty—61,000 lbs.; gross—124,000 lbs.; payload—35,000 lbs. POWERPLANTS: (4) Allison T56-A-1A turboprop; normal eshp—3,750. PERFORMANCE: max: speed—376 mph; cruise—362 mph; rate of climb—2,300 fpm; range—1,800 to 2,220 n.mi. MANUFACTURER: Lockheed Aircraft Corp., Burbank, Calif. REMARKS: Currently in use by USAF, will be superseded by more powerful C-130B. New version will have Allison T56-A-7A turboprops of 4,050 eshp. Corresponding increase in weights and performance. Photo depicts prototype YC-130.

Lockheed Aircraft Corp. Photo

Grumman TF-1 Trader

TYPE: U.S. Navy, twin-engine, general utility transport. DIMENSIONS: L—42′; span—69′ 8″; H—16′ 3½″. WEIGHTS: empty—17,000 lbs.; gross—24,500 lbs.; payload—3,500 lbs. POWERPLANTS: (2) Wright R1820-82; normal hp—1,520. PERFORMANCE: max. speed—290 mph; cruise—202 mph; rate of climb—2,500 fpm.; range—1,150 mi. MANUFACTURER: Grumman Aircraft Engineering Corp., Long Island, N.Y. REMARKS: Transport/Trainer version of S2F Tracker, has accommodation for nine passengers in backward facing seats.

Grumman Aircraft Engrg. Corp. Photo

. . . Business and Executive—Twin-Engine

Beech F50 Twin Bonanza (Army L-23D Seminole)

TYPE: 6-7 place, twin-engine, business plane. DIMENSIONS L—31' 6½"; span—45' 3¼"; H—11' 4". WEIGHTS: empty—4,460 lbs.; gross—7,000 lbs. POWERPLANTS: (2) Lycoming GSO-480-B1B6; normal hp—340. PERFORMANCE: max. speed—240 mph; cruise speed—228 mph; rate of climb—1,620 fpm; max. range—1,650 mi. MANUFACTURER: Beech Aircraft Corp, Wichita 1, Kan. REMARKS: The Model F50 is a further development of the Model 50 series, prototype of which made its first flight November 1949. Other models in the same series are: B50, C50, D50, D50A and E50.

Camair 480

TYPE: 4-place, twin-engine business plane. DIMENSIONS: L—28'; span—34' 8"; H—10' 8". WEIGHTS: empty—2,950 lbs.; gross—4,323 lbs. POWERPLANTS: (2) Continental O-470-B; normal hp—240. PERFORMANCE: max. speed—197 mph; cruise speed—185 mph; rate of climb—1,750 fpm; max. range with 107.5 gals fuel capacity—900 mi. MANUFACTURER: The Camair Corp., New Kingstown, Pa. REMARKS: The Camair 480 is a twin-engine version of the single-engine Ryan Navion. Newly formed company purchased the manufacturing rights from Camair Div. of Cameron Iron Works, Galveston, Tex. Photo is of Cameron Iron works-built airplane.

Beech Aircraft Corp. Photo

Piper Aircraft Corp. Photo

Piper PA-23 Apache "160"

TYPE: 4-5 place, twin-engine business plane. DIMENSIONS: L—27' 1"; span—37'; H—9' 6". WEIGHTS: empty—2,230 lbs.; gross—3,800 lbs. POWERPLANTS: (2) Lycoming O-320-B; normal hp—160. PERFORMANCE: max. speed—183 mph; cruise speed—171 mph; rate of climb—1,260 fpm; max. range—1,260 mi. MANUFACTURER: Piper Aircraft Corp., Lock Haven, Pa. REMARKS: This is the second production version of the Apache. Prior to October 1957, the PA-23 was powered with 150 hp Lycomings. As of March 1958, a total of 155 Apache "160" aircraft were produced.

Beech Aircraft Corp. Photo

Beech Travel Air 95

TYPE: 4-place, twin-engine, business plane. DIMENSIONS: L—25' 4"; span—37' 10"; H—9' 6". WEIGHTS: empty—2,580 lbs.; gross—4,000 lbs. POWERPLANTS: (2) Lycoming O-360-A1A; normal hp—180. PERFORMANCE: max. speed—209 mph; cruise speed—200 mph; rate of climb—1,360 fpm; max. range—1,100 mi. MANUFACTURER: Beech Aircraft Corp., Wichita 1, Kan. REMARKS: Latest addition to the Beech line, the Model 95 is designed to fill the gap between the J35 Bonanza and the F50 Twin Bonanza. Production totaled 101 as of April 10, 1958.

Beech Super 18

TYPE: 8-place, twin-engine, business plane. DIMENSIONS: L—35' 2½"; span—49' 8"; H—9' 6". WEIGHTS: empty—6,050 lbs.; gross—9,300 lbs.; payload—3,250 lbs. POWERPLANTS: (2) Pratt & Whitney R-985; normal hp—450. PERFORMANCE: max. speed—234 mph; cruise speed—215 mph; rate of climb—1,490 fpm; max. range—1,626 mi. MANUFACTURER: Beech Aircraft Corp., Wichita 1, Kan. REMARKS: Successor to the Model 18 series commonly referred to as the Twin Beech. Up to April 1958, a total of 357 Super 18s were built.

Beech Aircraft Corp. Photo

craft, Inc., Conway, Pa. REMARKS: The Taylorcraft airplanes are

Cessna Aircraft Co. Photo

Cessna 310B (USAF L-27)

TYPE: 4-5 place, twin-engine business plane. DIMENSIONS: L—27'; span—36'; H—10' 6". WEIGHTS: empty—2,965 lbs.; gross—4,700 lbs. POWERPLANTS: (2) Continental O-470-M; normal hp— 240. PERFORMANCE: max. speed—232 mph; cruise speed—213 mph; rate of climb—1,660 fpm; normal range—975 mi. MANUFACTURER: Cessna Aircraft Co., Wichita, Kan. REMARKS: This successor to the standard 310 incorporates many refinements, mainly to the cabin portion.

Aero Design & Engrg. Co. Photo

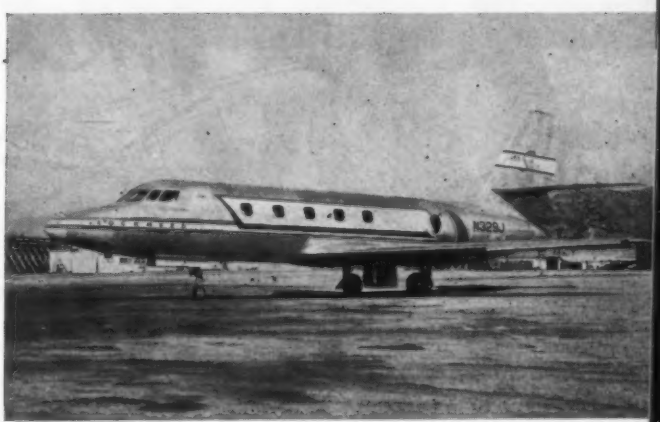
Aero Design 720 Alticruiser

TYPE: 4-6 place, twin-engine, business plane. DIMENSIONS: L—35' 5"; span—44' 0¾"; H—14' 9". WEIGHTS: empty—5,200 lbs.; gross—7,000 lbs. POWERPLANTS: (2) Lycoming GSO-480-81A6; normal hp—340. PERFORMANCE: max. speed—260 mph; cruise speed—230 mph; rate of climb—1,625 fpm; max. range—1,500 mi. MANUFACTURER: Aero Design & Engineering Co., Tulakes Airport, Oklahoma City, Okla. REMARKS: Pressurized version of Aero Commander. Other Aero Design Aircraft models are: 500, 520, 560A, 560E, 680E, 680 Super. All externally similar.

Mooney Mark 22

TYPE: 4-place, twin-engine business plane. DIMENSIONS: L—23'; span—35'; H—8' 4½". WEIGHTS: empty—1,950 lbs.; gross—3,250 lbs. POWERPLANTS: (2) Lycoming 0-360; normal hp—180. PERFORMANCE: max. speed—230 mph; cruise speed—220 mph; rate of climb—1,500 fpm; max. range—1,400 mi. MANUFACTURER: Mooney Aircraft, Inc., Kerrville, Tex. REMARKS: This aircraft exists only in protoytpe form and is still in the development stage. Deliveries are scheduled to begin sometime in 1960.

. . . Business and Executive—Turbine-Powered



Lockheed L-329 JetStar

TYPE: 10-22 passenger, twin-engine, executive or military utility jet transport. DIMENSIONS: L—58' 9½"; span—53' 8¼"; H—24' 9½". WEIGHTS: empty—15,600 lbs.; gross—38,300 lbs. POWERPLANTS: (2) Bristol/Curtiss Wright TJ37; normal static thrust approx.—4,850 lbs. PERFORMANCE: max. speed—630 mph; cruise speed—505 mph; rate of climb—6,600 fpm; max. range—2,600 n.mi. MANUFACTURER: Lockheed Aircraft Corp., Burbank, Calif. REMARKS: A proposed version of this same aircraft can be fitted with 4 General Electric J85 jets.

North American Sabreliner

TYPE: 4-8 passenger, twin-engine, executive or military utility jet transport. DIMENSIONS: L—43' 9"; span—42' 6" H—16' 6". WEIGHTS: empty—8,153 lbs.; gross—15,330 lbs. POWERPLANTS: (2) General Electric J85; normal static thrust—approx. 2,000 lbs. PERFORMANCE: max. speed—575 mph; cruise—400 mph; max. range—1,380 mi. MANUFACTURER: North American Aviation, Inc., El Segundo, Calif. REMARKS: Designed as a competitor for the USAF off-the-shelf UTX program, the Sabreliner will also be offered as a high-speed civil executive transport.

. . . Transport & Business Aircraft (cont'd.)

. . . Business, Executive—Single-Engine

Helio Courier

TYPE: 5-place, single-engine, STOL business plane. DIMENSIONS: L—30'; Span—39'; H—8' 10". WEIGHTS: empty—1,950 lbs.; gross—3,500 lbs. POWERPLANT: (1) Lycoming G0435-C2B2-6; normal hp—260. PERFORMANCE: max. speed—169 mph; cruise speed—160 mph; rate of climb—1,300 fpm; max. range—700 mi. MANUFACTURER: Helio Aircraft Corp., Norwood, Mass.

Piper PA-24 Comanche "250"

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—24' 10"; Span—36'; H—7' 3½". WEIGHTS: empty—1,600 lbs.; gross—2,800 lbs. POWERPLANT: (1) Lycoming 0-540-A; normal hp—250. PERFORMANCE: max. speed—190 mph; cruise speed—181 mph; rate of climb—1,400 fpm; max. range—1,100 mi. MANUFACTURER: Piper Aircraft Corp., Lock Haven, Pa. REMARKS: The Comanche is Piper's latest business plane and is being produced in two versions.

Northern 14-19-2 Cruisemaster

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—22' 10¾"; Span—34' 2"; H—6' 2½". WEIGHTS: empty—1,640 lbs.; gross—2,700 lbs. POWERPLANT: (1) Continental O-470-K; normal hp—230. PERFORMANCE: max. speed—206 mph; cruise speed—196 mph; rate of climb—1,500 fpm; max. range—800 mi. MANUFACTURER: Northern Aircraft, Inc., Alexandria, Minn. REMARKS: Northern purchased all manufacturing rights for this model and has built approximately 90 Cruisemasters to date.

Cessna Skylane

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—26'; Span—36'; H—8' 6". WEIGHTS: empty—1,560 lbs.; gross—2,650 lbs. POWERPLANT: (1) Continental O-470-L; normal hp—230. PERFORMANCE: max. speed—168 mph; cruise speed—158 mph; rate of climb—1,030 fpm; max. range—819 mi. MANUFACTURER: Cessna Aircraft Co., Wichita, Kan.

Taylorcraft Zephyr 400

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—24' 4"; Span—34' 8"; L—7' 1-11/16". WEIGHTS: empty—1,750 lbs.; gross—2,750 lbs. POWERPLANT: (1) Continental O-470-J; normal hp—225. PERFORMANCE: max. speed—160 mph; cruise speed—150 mph; rate of climb—900 fpm; max. range—750 mi. MANUFACTURER: Taylorcraft, Inc., Conway, Pa. REMARKS: The Taylorcraft airplanes are unique in that fiberglass covering is used instead of fabric for which exceptional strength with little increase in weight is claimed.

Mooney Mark 20A

TYPE: 4-place, single engine, business plane. DIMENSIONS: L—23' 2"; Span—35'; H—8' 4½". WEIGHTS: empty—1,440 lbs.; gross—2,450 lbs. POWERPLANT: (1) Lycoming 0-360; normal hp—180. PERFORMANCE: max. speed—190 mph; cruise speed—180 mph; rate of climb—1,150 fpm; max. range—1,075 mi. MANUFACTURER: Mooney Aircraft, Inc., Kerrville, Tex. REMARKS: Mark 20A production began in February.

Tusco "D" Navion

TYPE: 4-5 place, single-engine, business plane. DIMENSIONS: L—27' 8"; Span—34' 4"; H—8' 8". WEIGHTS: empty—1,919 lbs.; gross—3,150 lbs. POWERPLANT: (1) Continental O-470-P; normal hp—240. PERFORMANCE: max. speed—185 mph; cruise speed—175 mph; rate of climb—1,560 fpm; max. range—1,530 mi. MANUFACTURER: Navion Div. of Tusco Corp., Galveston, Tex.

Piper PA-22 Tripacer "160"

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—20' 7"; Span—29' 3½"; H—8' 4". WEIGHTS: empty—1,100 lbs.; gross—2,000 lbs. POWERPLANT: (1) Lycoming 0-320-B; normal hp—160. PERFORMANCE: max. speed—141 mph; cruise speed—134 mph; rate of climb—800 fpm; max. range—500 mi. MANUFACTURER: Piper Aircraft Corp., Lock Haven, Pa. REMARKS: The "160" is the latest version of variously powered Tripacers.

Meyers MAC 200

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—23' 8½"; Span—30' 6"; H—8'. WEIGHTS: empty—1,870 lbs.; gross—3,000 lbs. POWERPLANT: (1) Continental O-470-M; normal hp—240. PERFORMANCE: max. cruise speed—192 mph; cruise range—700 mi. MANUFACTURER: Meyers Aircraft Co., Tecumseh, Mich. REMARKS: This aircraft is a development of the earlier 2-place MAC 145. The model 200 was certificated in March 1958. Preparations for quantity production are underway.

Beech J35 Bonanza

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—25' 2"; Span—32' 10"; H—6' 6½". WEIGHTS: empty—1,820 lbs.; gross—2,900 lbs. POWERPLANT: (1) Continental O-470-C; normal hp—250. PERFORMANCE: max. speed—210 mph; cruise speed—200 mph; rate of climb—1,250 fpm; max. range—1,060 mi. MANUFACTURER: Beech Aircraft Corp., Wichita 1, Kan.

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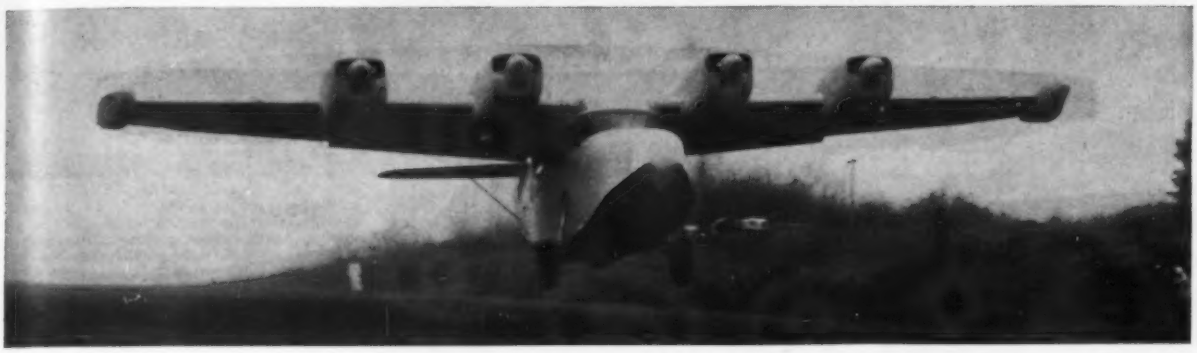
. . . Transport and Business Aircraft (cont'd.)

. . . Business and Executive—Amphibian



McKinnon G-21A Goose Conversion

TYPE: 6-8 place, four-engine, business amphibian. DIMENSIONS: L—39' 7"; span—54'; H—11'. WEIGHTS: empty—8,500 lbs.; gross—12,000 lbs. POWERPLANTS: (4) Lycoming GSO-480; normal hp—340. PERFORMANCE: cruise speed—225 mph; rate of climb—2,500 fpm; max. range with 450 gal. fuel capacity—1,500 mi. MANUFACTURER: McKinnon Enterprises, Sandy, Ore. REMARKS: Aircraft is a completely remanufactured Grumman Goose. Three-blade, reversible Hartzell propellers used to facilitate water handling and maneuvering. Floats retractable.

Colonial Skimmer C-2

TYPE: 4-place, single-engine, pusher amphibian. DIMENSIONS: L—23' 6"; span—34"; H—8' 10". WEIGHTS: empty—1,470 lbs.; gross—2,350 lbs. POWERPLANT: (1) Lycoming O-360-A1A; normal hp—180. PERFORMANCE: max. speed—136 mph; cruise speed—125 mph; rate of climb—600 fpm; max. range—500 mi. MANUFACTURER: Colonial Aircraft Corp., Sanford, Me. REMARKS: Succeeding the earlier three-place C-1 Skimmer, of which 17 were built, the C-2 was put into production in December 1957. A batch of 150 C-2s is currently under construction.

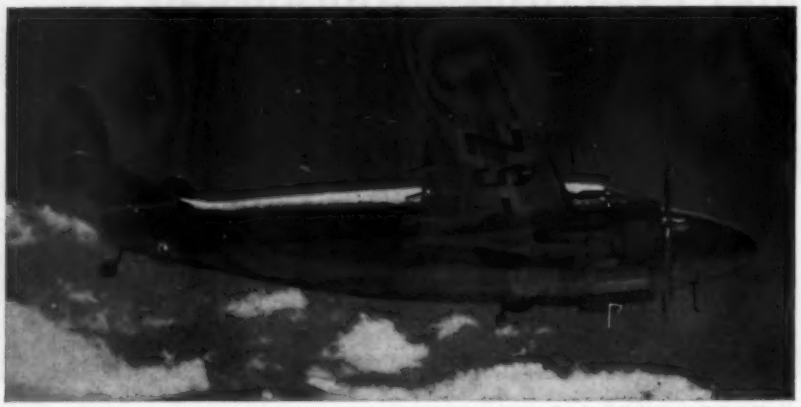
McKinnon G-44A Super Widgeon

TYPE: 4-6 place, twin-engine, business amphibian. DIMENSIONS: L—31'; span—40'; H—9'. WEIGHTS: empty—3,420 lbs.; gross—5,000 lbs. POWERPLANTS: (2) Lycoming GO-435-C2; normal hp—260. PERFORMANCE: max. speed—185 mph; cruise speed—170 mph; rate of climb—1,750 fpm; max. range—700 mi. MANUFACTURER: McKinnon Enterprises, Sandy, Ore. REMARKS: Another extensive conversion by McKinnon. Originally the Grumman Widgeon or French license-built SCAN 30, both two-blade and three-blade propeller versions are flying. Some 73 Widgeon conversions flying.

Trecker P.136-L-2 Super Gull

TYPE: 5-place, twin-engine, pusher amphibian. DIMENSIONS: L—35' 7"; span—44' 5"; H—12' 7". WEIGHTS: empty—4,630 lbs.; gross—6,614 lbs. POWERPLANTS: (2) Lycoming GSO-480-A1A6; normal hp—340. PERFORMANCE: max. speed—208 mph; cruise speed—184 mph; rate of climb—1,279 fpm; max. range—994 mi. MANUFACTURER: Trecker Aircraft Corp., General Mitchell Field, Milwaukee 7, Wis. REMARKS: Lower-powered version, the Royal Gull, has 270-hp Lycoming engines. Italy's Piaggio company makes basic airframe, Trecker installs engines, props, radios, etc.

. . . Transports—Out of Production



Lockheed Aircraft Corp. Photo

Lockheed 18-56 Lodestar

TYPE: 14-17 passenger, twin-engine commercial transport. DIMENSIONS: L—49′ 9¾″; span—65′ 6″; H—11′ 10½″. WEIGHTS: empty—11,790 lbs.; gross—17,500 lbs. POWERPLANTS: (2) Wright Cyclone R1820-G205A; normal hp—1,000. PERFORMANCE: max. speed—272 mph; cruise speed—248 mph; rate of climb—1,950 fpm; max. range—1,890 mi. REMARKS: Developed as a successor to the Model 14 the Lodestar is being utilized in the U.S. as an executive type. However, various other versions of this model are still being used in commercial airline service.

Lockheed 749 Constellation (USAF: C-121)

TYPE: 44-64 passenger, four-engine, commercial transport. DIMENSIONS: L—95′ 1¼″; span—123′; H—23′. WEIGHTS: empty—57,160 lbs.; gross—105,000 lbs. POWERPLANTS: (4) Wright Cyclone GR-3350-C18-BD1: normal hp—2,500. PERFORMANCE: max. speed—347 mph; cruise speed—298 mph; rate of climb—1,620 fpm; max. range—3,000 mi. REMARKS: This model is a long-range version of the earlier L-649. Most of the earlier models, however, have been modified to L-749 standard. This latter model in turn is superseded by the L-749A and B.

Lockheed 10 Electra

TYPE: 12-place, twin-engine, commercial transport. DIMENSIONS: L—38′ 7″; span—55′; H—10′ 1″. WEIGHTS: empty—6,325 lbs.; gross—10,000 lbs. POWERPLANTS: (2) Pratt & Whitney Wasp Junior SB-2; normal hp—400. PERFORMANCE: max. speed—210 mph; cruise speed—185 mph; rate of climb—1,140 fpm; max. range—810 mi. REMARKS: Ten Model 10As are currently active in the U.S. and many other 10As, Bs, Cs and Es are still flying throughout the world.

←

Douglas DC-3

TYPE: 21-36 passenger, twin-engine, commercial transport. DIMENSIONS: L—64′ 5½″; span—95′; H—16′ 11″. WEIGHTS: empty—16,970 lbs.; gross—25,200 lbs. POWERPLANTS: (2) Pratt & Whitney R1830-92 or Wright Cyclone GR-1820-G202A; normal hp—1,200. PERFORMANCE: max. speed—230 mph; cruise speed—185 mph; rate of climb—1,170 fpm; max. range—1,510 mi. REMARKS: First produced in 1935, the DC-3 is still the mainstay of the smaller airlines all over the world. In all, 10,123 military and 803 commercial versions were produced.

→

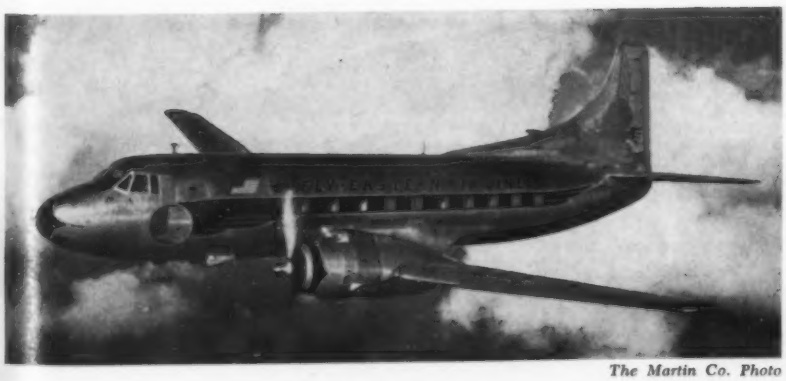
Douglas DC-4 Skymaster

TYPE: 40-68 passenger, four-engine, commercial transport. DIMENSIONS: L—93′ 11″; span—117′ 6″; H—27′ 6¼″. WEIGHTS: empty—38,200 lbs.; gross—73,000 lbs. POWERPLANTS: (4) Pratt & Whitney R2800-2SD13-G; normal hp—1,450. PERFORMANCE: max. speed—275 mph; cruise speed—240 mph; max. range—3,900 mi. REMARKS: Still used in fairly large numbers the DC-4 and ex-military C-54 form part of the equipment of many of the world's airlines. Approx. 1,200 DC-4s and C-54s were built.

Pan American World Airways System Photo

Boeing 377 Stratocruiser

TYPE: 55-100 passenger, four-engine, commercial transport. DIMENSIONS: L—110′ 4″; span—141′ 3″; H—38′ 3″. WEIGHTS: empty—83,500 lbs.; gross—142,500 lbs. POWERPLANTS: (4) Pratt & Whitney R4360-TSB3-G; normal hp—3,500. PERFORMANCE: max. speed—375 mph; cruise speed—340 mph; rate of climb—1,100 fpm; max. range—4,600 mi. REMARKS: Designed mainly for long-range, over-water operations, the Stratocruiser is currently used by several U.S. and foreign airlines on international routes.



The Martin Co. Photo

Martin 4-0-4

TYPE: 40-passenger, twin-engine, commercial transport. DIMENSIONS: L—74′ 7″; span—93′ 3″; H—28′ 5″. WEIGHTS: empty—28,085 lbs.; gross—44,900 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-CB-16; normal hp—2,400. PERFORMANCE: max. speed—312 mph; cruise speed—280 mph; rate of climb—1,790 fpm; max. range—2,500 mi. REMARKS: The Martin 4-0-4 is a more advanced version of the Model 2-0-2. Thirty-one Model 2-0-2s were built and 103 Model 4-0-4s.

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. . . Conversions of Ex-Military

American Aviation Staff Photo

Douglas B-23/UC-67

TYPE: 11-14 place, twin-engine, executive transport. DIMENSIONS: L—58′ 6″; span—9[illegible]′; H—18′ 4″. WEIGHTS: gross—27,000 to 29,000 lbs. POWERPLANTS: (2) Wright Cyclone R2600-29; normal hp—1,600. PERFORMANCE: max. speed—286 mph; cruise speed—261 mph; max. range—approx. 2,500 mi. REMARKS: Of 1940 vintage, the B-23 was developed from the earlier B-18 which in turn was a bomber version of the commercial DC-3. Certain similarities to the DC-3 will be noted.

Douglas B-26B Invader

TYPE: 7-8 place, twin-engine, executive transport. DIMENSIONS: L—50′; span—70′; H—18′ 6″. WEIGHTS: max. gross—30,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800—CB16; normal hp—2,000. PERFORMANCE: cruise speed—360 mph; range—approx. 1,780 mi. REMARKS: Most executive versions of the B-26B (originally A-26) utilize landing gear and same series engines as used in Douglas DC-6B commercial transport. The Invader is one of the most widely used high speed executive transports in its class.

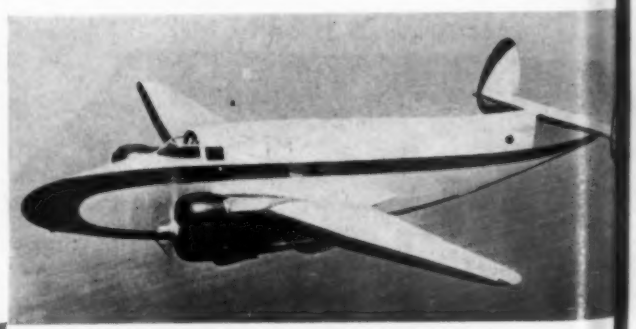
American Aviation Staff Photo

Howard Aero PV-1 Super Ventura

TYPE: 12-14 place, twin-engine, executive transport. DIMENSIONS: L—57′ 2″; span—62′; H—13′ 4″. WEIGHTS: empty—20,000 lbs.; gross—31,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-CB series; normal hp—2,500. PERFORMANCE: max. speed—350 mph; cruise speed—330 mph; rate of climb—approx. 1,100 fpm; max. range—2,000 mi. MANUFACTURER: Howard Aero, Inc., International Airport, San Antonio, Tex. REMARKS: A pressurized version is also available to customer order. Basically this aircraft is a remanufactured ex-military patrol bomber. To date, 25 PV-1s have undergone conversion.

Pac Aero Learstar Mk. 1

TYPE: 9-passenger, twin-engine, executive transport. DIMENSIONS: L—55′ 6″; span—56′ 2″; H—11′ 10″. WEIGHTS: empty—15,500 lbs.; gross—24,000 lbs. POWERPLANTS: (2) Wright R1820-76A; normal hp—1,425. PERFORMANCE: max. speed—321 mph; cruise speed—281 mph; rate of climb—1,500 fpm; max. range—4,000 mi. MANUFACTURER: Pac Aero Engineering Corp., Santa Monica Airport, Santa Monica, Calif. REMARKS: This aircraft is a completely remanufactured Lockheed 18-56 Lodestar. First conversion was made in 1954 and since that date, a total of 40 conversions have been made, both by Lear, Inc. and Pac Aero. The latter company purchased all manufacturing rights from Lear.



Oakland PV-2 Centaurus

TYPE: 11-14 place, twin-engine, executive transport. DIMENSIONS: L—54′; span—74′; H—16′. WEIGHTS: empty—18,700 lbs.; gross—32,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-83AM10; normal hp—2,000. PERFORMANCE: max. speed—328 mph; cruise speed—280 mph; rate of climb—2,000 fpm; max. range—2,000 mi. MANUFACTURER: Oakland Airmotive Co., Oakland International Airport, Oakland, Calif. REMARKS: This aircraft is a completely remanufactured ex-military Lockheed PV-2 Harpoon. It is pressurized.

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Fairchild C-82 Packet

TYPE: 52-passenger, twin-engine, commercial transport. DIMENSIONS: L—77′ 1″; span—106′ 6″; H—26′ 5″. WEIGHTS: empty—31,288 lbs.; gross—50,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-85; normal hp—2,100. PERFORMANCE: max. speed—238 mph; rate of climb—920 fpm; max. range—1,000 mi. REMARKS: No longer in production. Most of the passenger-carrying variety are being used by South American operators. Such C-82s as remain in the U.S. are being used as crop dusters and flying workshops for airlines. Specifications relate to the military version.

Martin B-26 Marauder

TYPE: 15-passenger, twin-engine, executive transport. DIMENSIONS: L—63′ 8″; span—73′ 3″; H—21′ 6″. WEIGHTS: empty—24,000 lbs.; gross—36,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-83AM8; normal hp—2,000. PERFORMANCE: max. speed—325 mph; cruise speed—285 mph; rate of climb—1,700 fpm; max. range—1,800 mi. REMARKS: An example of what can be done to an ex-military bomber. This particular B-26 is owned by Tennessee Gas Transmission Company of Houston, Tex.

Convair PBY-5A

TYPE: Twin-engine, commercial or executive amphibian and aero survey aircraft. DIMENSIONS: L—63′ 10″; span—104′; H—18′ 10″. WEIGHTS: empty—17,564 lbs.; gross—34,000 lbs. POWERPLANTS: (2) Pratt & Whitney R1830-92; normal hp—1,200. PERFORMANCE: max. speed—196 mph; cruise speed—130 mph; max. range—2,520 mi. REMARKS: Although rarely seen in the U.S. in civil form, many versions are flying throughout the rest of the world in various guises.

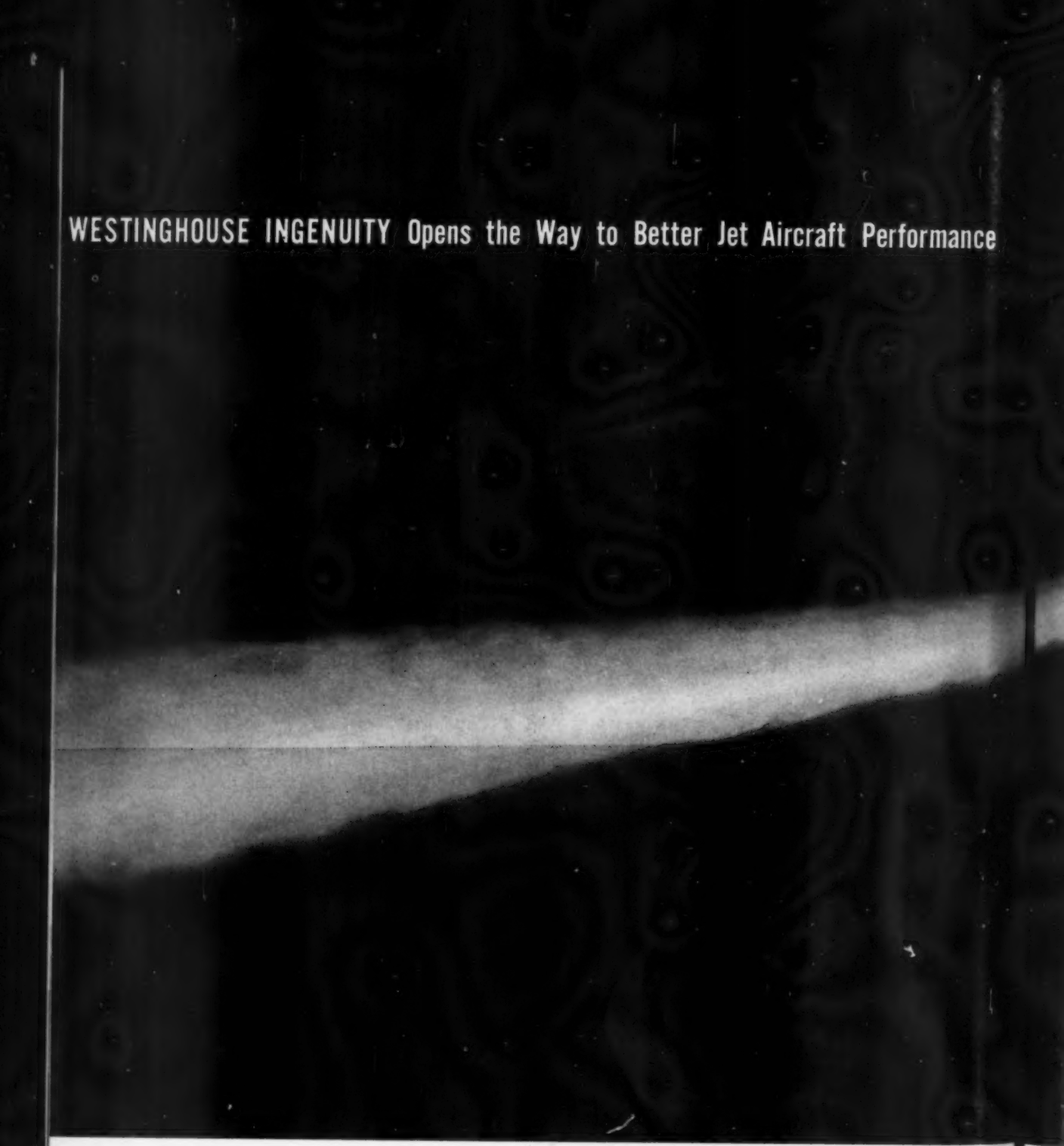
North American B-25J Mitchell

TYPE: 9-passenger, twin-engine, executive transport. DIMENSIONS: L—54′; span—64′; H—15′ 10″. WEIGHTS: empty—21,800 lbs.; gross—34,000 lbs. POWERPLANTS: (2) Wright Cyclone R2600-29; normal hp—1,700. PERFORMANCE: max. speed—290 mph; cruise speed—250 mph; rate of climb—1,150 fpm; max. range—1,800 mi. REMARKS: Another ex-military bomber which has been converted to a high-speed executive transport. This aircraft is owned by Husky Oil Co., Cody, Wyo.

American Aviation Staff Photo

Cessna T-50/UC-78

TYPE: 5-place, twin-engine, business plane. DIMENSIONS: L—32′ 9″; span—41′ 11″; H—9′ 11″. WEIGHTS: empty—4,050 lbs.; gross—5,700 lbs. POWERPLANTS: (2) Jacobs R755-9; normal hp—245. PERFORMANCE: max. speed—179 mph; cruise speed—161 mph; rate of climb—1,525 fpm; max. range—750 mi. REMARKS: Approx. two hundred war surplus UC-78s are currently flying in all parts of the world in addition to a few of the prewar commercial models.



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Republic RC-3 Seabee

TYPE: 4-place, single-engine, pusher amphibian. DIMENSIONS: L—27′ 11″; span—37′ 8″; H—10′ 1″. WEIGHTS: empty—1,950 lbs.; gross—3,000 lbs. POWERPLANT: (1) Franklin 6A8-215-B7F; normal hp—215. PERFORMANCE: max. speed—120 mph; cruise speed—103 mph; rate of climb—700 fpm; max. range—560 mi. REMARKS: Approx. 300 Seabees currently active in the U.S.

Cessna Airmaster C-145

TYPE: 4-place, single-engine, business airplane. DIMENSIONS: L—24′ 8″; span—34′ 2″; H—7′. WEIGHTS: empty—1,380 lbs.; gross—2,450 lbs. POWERPLANT: (1) Warner SuperScarab; normal hp—145. PERFORMANCE: max. speed—165 mph; cruise speed—151 mph; rate of climb—1,000 fpm; max. range—785 mph. REMARKS: First produced in 1934 carrying the designation C-34, the Airmaster was successively produced—the last two letters indicating year of manufacture. The C-145 and C-165 indicated hp. This system of designation departed from the year of manufacture designation although all models were externally similar. Some 35 Airmasters currently active.

Fairchild 24W46

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—23′ 9″; span—36′ 4″; H—7′ 7½″. WEIGHTS: empty—1,732 lbs.; gross—2,801 lbs. POWERPLANT: (1) Warner Super Scarab; normal hp—165. PERFORMANCE: max. speed—132 mph; cruise speed—117 mph; rate of climb—650 fpm; max. range—639 mi. REMARKS: The basic model 24 was first produced in 1933 and various versions powered with either the 200 hp Ranger or 145 to 165 hp Warners were produced up to 1946.

Spartan 7W Executive

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—26′ 10″; span—39′; H—8′. WEIGHTS: empty—2,987 lbs.; gross—4,400 lbs. POWERPLANT: (1) Pratt & Whitney R985; normal hp—450. PERFORMANCE: max. speed—257 mph; cruise—200 mph; rate of climb—1,086 fpm; max. range—1,000 mi. REMARKS: First produced in 1936, the 7W was a remarkably advanced airplane for its day. A total of 33 of these all-metal airplanes were built with some 20 examples currently active in the U.S.

Luscombe 11A Silvaire Sedan

TYPE: 4-place, single-engine, business airplane. DIMENSIONS: L—23′ 6″; span—38′; H—6′ 10″. WEIGHTS: empty—1,280 lbs.; gross—2,280 lbs. POWERPLANT: (1) Continental E165; normal hp—165. PERFORMANCE: max. speed—145 mph; cruise speed—130 mph; rate of climb—900 fpm; max. range—560 mi. REMARKS: introduced in 1948, this all-metal airplane is virtually a four-place development of the model 8, two-place light airplane. Approx. 30 Luscombe 11As are currently active.

Piper PA-20 Pacer

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—20′ 4¾″; span—29′ 4″; H—6′ 2½″. WEIGHTS: empty—1,020 lbs.; gross—1,950 lbs. POWERPLANT: (1) Lycoming 0-290-D2; normal hp—135. PERFORMANCE: max. speed—139 mph; cruise speed—125 mph; rate of climb 620 fpm; max. range—580 mi. REMARKS: Introduced as an advanced development of the PA-16 Clipper, the Pacer was supplied with either 115, 125 or 135 hp Lycoming engines.

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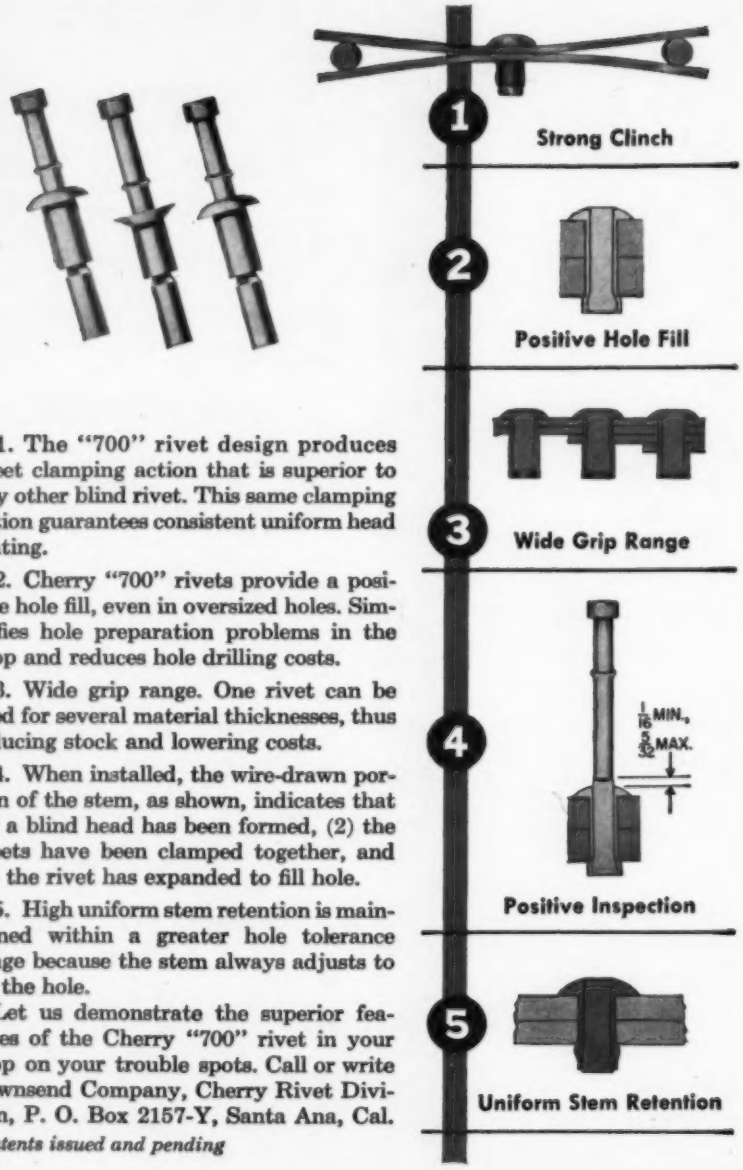

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. . . Single-Engine Business and Executive Aircraft (Out of production)

Aeronca 15AC Sedan

TYPE: 4-place, single-engine, business plane. DIMENSIONS: L—25′ 3″; span—37′ 6″; H—7′. WEIGHTS: empty—1,150 lbs.; gross—2,050 lbs. POWERPLANT: (1) Continental C145; normal hp—145. PERFORMANCE: max. speed—129 mph; cruise speed—114 mph; rate of climb—800 fpm; max. range—456 mph. REMARKS: Approx. 270 Sedans are currently active in the U.S. Several floatplane versions are active designated S15AC. Production of this model ceased during 1950.

Howard DGA-15P

TYPE: 5-place, single-engine, business plane. DIMENSIONS: L—25′ 8″; span—38′; H—8′ 5″. WEIGHTS: empty—2,650 lbs.; gross—4,350 lbs. POWERPLANT: (1) Pratt & Whitney R985-AN-12; normal hp—450. PERFORMANCE: max. speed—175 mph; cruise speed—154 mph; rate of climb—1,850 fpm; max. range—984 mi. REMARKS: The DGA-15P design was based on the 1934 Bendix trophy winner "Mr. Mulligan." This high performance airplane is much in demand even though the design is nearly ten years old. Approx. 130 DGA-15s are currently active in the U.S.

Beech G17S

TYPE: 5-place, single-engine, business plane. DIMENSIONS: L—26′ 10″; span—32′; H—8′. WEIGHTS: empty—2,524 lbs.; gross—4,200 lbs. POWERPLANT: (1) Pratt & Whitney R985; normal hp—450. PERFORMANCE: max. speed—215 mph; cruise speed—202 mph; rate of climb—1,400 fpm; max. range—700 mi. REMARKS: The G17S was the last of the Staggerwing models built by Beech. A total of 781 model 17s were built between November 1932 to cessation of production in 1948.

Cessna 190-195

TYPE: 5-place, single-engine, business plane. DIMENSIONS: L—27′ 4″; span—36′ 10″; H—7′ 2″. WEIGHTS: empty—2,030 lbs.; gross—3,350 lbs. POWERPLANT: (1) Jacobs R744-A2; normal hp—240. PERFORMANCE: max. speed—173 mph; cruise speed—155 mph; rate of climb—1,050 fpm; max. range—750 mi. REMARKS: The model 195 is slightly longer than the 190. A 240 hp Continental engine is used in the model 190, otherwise both models are externally similar.

Stinson SR-10 Reliant

TYPE: 4-5 place, single-engine, business airplane. DIMENSIONS: L—29′ 4¼″; span—41′ 10½″; H—8′ 7″. WEIGHTS: empty—2,810 lbs.; gross—4,000 lbs. POWERPLANT: (1) Lycoming R680-13; normal hp—290. PERFORMANCE: max. speed—141 mph; cruise speed—130 mph; rate of climb—850 fpm; max. range—700 mi. REMARKS: The SR-10 was produced in a wide variety of versions, the V-77 being the modified military version. Some 120 SR-10s and ex-military V-77s are currently active.

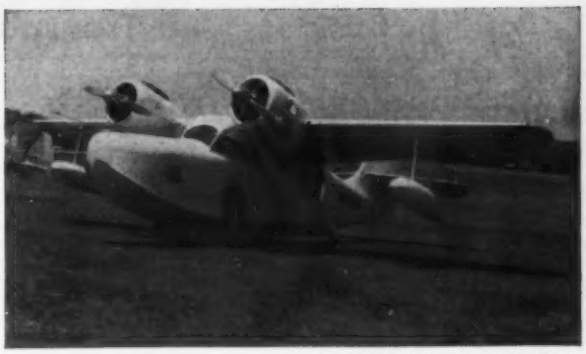
Stinson Flying Station Wagon

TYPE: 4-place, single-engine, convertible passenger/light cargo airplane. DIMENSIONS: L—25′ 2″; span—33′ 11″; H—7′ 6″. WEIGHTS: empty—1,320 lbs.; gross—2,400 lbs. POWERPLANT: (1) Franklin 6A4-150-B3; normal hp—165. PERFORMANCE: max. speed—142 mph; cruise speed—130 mph; rate of climb—750 fpm; max. range—600 mi. REMARKS: Still a very popular business plane, the standard model 108 and the Station Wagon number some 2,000 currently active.

. . . Twin-Engine Business and Executive—Out of Production

Grumman G-21A Goose

TYPE: 8-place, twin-engine, executive and commercial amphibian. DIMENSIONS: L—38′; span—49′; H—15′. WEIGHTS: empty—5,424 lbs.; gross—8,500 lbs. POWERPLANTS: (2) Pratt & Whitney R985-AN-6; normal hp—450. PERFORMANCE: max. speed—180 mph; cruise speed—166 mph; rate of climb—1,100 fpm; max. range—800 mi. REMARKS: Approx. 60 G-21As are active in the U.S.



American Aviation Staff Photo

Grumman G-73 Mallard

TYPE: 12-place, twin-engine, executive amphibian. DIMENSIONS: L—48′ 4″; span—66′ 8″; H—18′ 9″. WEIGHTS: empty—9,500 lbs.; gross—12,750 lbs. POWERPLANTS: (2) Pratt & Whitney T1340; normal hp—600. PERFORMANCE: max. speed—225 mph; cruise speed—180 mph; rate of climb—1,290 fpm; max. range—1,245 mi. REMARKS: First produced in April 1946, a total of 59 Mallards were built. Of these, 32 are currently active.

Temco Riley D-16A Twin Navion

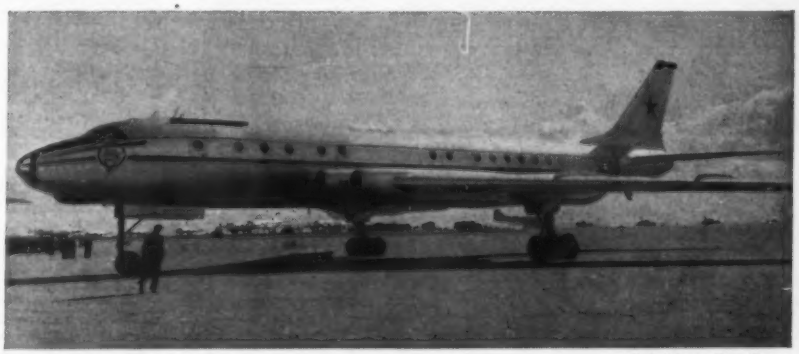
TYPE: 4-place, twin-engine, business plane. DIMENSIONS: L—27′ 2″; span—34′; H—10′ 4″. WEIGHTS: empty—2,350 lbs.; gross—3,600 lbs. POWERPLANTS: (2) Lycoming O-340-A1A; normal hp—170. PERFORMANCE: max. speed—196 mph; cruise speed—170 mph; rate of climb—1,400 fpm; max. range—850 mi. REMARKS: The D-16A is a twin-engine conversion of the single-engine Ryan Navion. Approx. 70 D-16s and D-16As are currently active in the U.S.

. . . Foreign Transport and Business Aircraft

. . . Transports—Turbine-Powered

Tu-110—NATO code name: Cooker (U.S.S.R)

TYPE: 78-passenger, four-engine commercial jet transport. DIMENSIONS: L—125′; span—122′; H—39′ 4¼″. WEIGHTS: gross—approx. 175,000 lbs.; payload—approx. 26,455 lbs. POWERPLANTS: (4) Lyulka type turbojets; normal static thrust—approx. 5,200 lbs. PERFORMANCE: max. speed—621 mph; cruise speed—497 mph; max. range—2,050 mi. REMARKS: Similar in appearance to the Tu-104, this four-engine version, like other Soviet jet transports, is uneconomical to operate by western standards. A high-density version designated Tu-110A is said to be under development.



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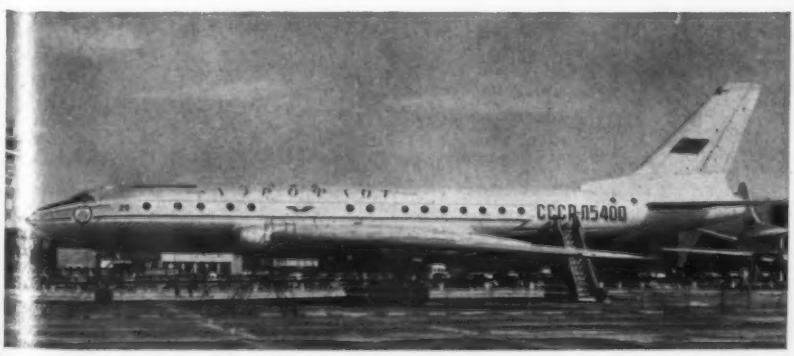


Tu-104—NATO code name: Camel (U.S.S.R.)

TYPE: 50-80 passenger, twin-engine commercial jet transport. DIMENSIONS: L—121′ 5″; span—114′ 10″; H—39′ 5″. WEIGHTS: empty—42,880 lbs.; gross—121,254 lbs. POWERPLANTS: (2) Mikulin M209; normal static thrust—14,855 lbs. PERFORMANCE: max. speed—590 to 621 mph; cruise speed—515 mph; max. range—1,865 mi. REMARKS: This transport has been seen regularly in the western world and several different versions have appeared. The Tu-104A is a high-density version having accommodation for 70 passengers and is said to be powered by engines of slightly more static thrust.

. . . Foreign Business and Transport Aircraft

Turbine-Powered Transports

TU-114 Rossiya—NATO code name: Cleat (U.S.S.R.)

TYPE: 120-220 passenger, four-engine commercial turboprop transport. DIMENSIONS: L—154′ 10″; span—177′ 2″; H—38′ 8½″. WEIGHTS: empty—188,274 lbs.; gross—413,915 lbs. POWERPLANTS: (4) Kuznetsov NK-12M or 022K; normal eshp—12,000 plus 2,645 lbs. thrust. PERFORMANCE: max. speed—approx. 620 mph; cruise speed—530 mph; max. range—9,000 mi. REMARKS: Derived from the Tu-95 Bear bomber, the Tu-114 is expected to appear in several versions.

Vickers Viscount 800 (Great Britain)

TYPE: 44-70 passenger, four-engine commercial turboprop transport. DIMENSIONS: L—85′ 8″; span—93′ 11″; H—26′ 9″. WEIGHTS: empty—39,900 lbs.; gross—63,000 lbs. POWERPLANTS: (4) Rolls-Royce Dart RDa6 Mk. 510; normal eshp—1,740. PERFORMANCE: max. speed—325 mph; cruise speed—315 mph; rate of climb—1,300 fpm; max. range—1,950 mi. MANUFACTURER: Vickers Armstrongs (Aircraft) Ltd., Weybridge, Surrey, England. REMARKS: Viscount 800 series is a progressive development of the 700 series. Continental Airlines recently became the first U.S. operator of Viscount 800s.

Bristol Aeroplane Co. Ltd. Photo

Bristol Britannia 312 (Great Britain)

TYPE: 110-passenger, four-engine, commercial turboprop transport. DIMENSIONS: L—124′ 3″; span—142′ 3½″; H—37′ 4½″. WEIGHTS: empty—92,000 lbs.; gross—180,000 lbs.; payload—28,000 lbs. POWERPLANTS: (4) Bristol Proteus 761; normal eshp—3,740. PERFORMANCE: max. speed—415 mph; cruise speed—395 mph; rate of climb—1,355 fpm; max. range—4,680 mi. MANUFACTURER: The Bristol Aeroplane Co., Ltd., Filton House, Bristol, England. REMARKS: Of the 32 Britannia 312s, 313s and 314s ordered, approx. 18 have been completed. Many of these are now in regular airline service.

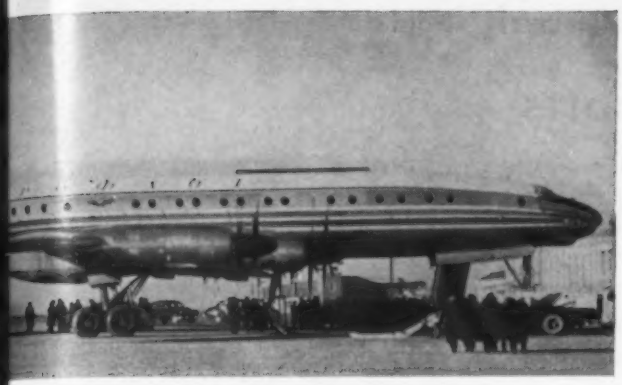
Sovfoto

IL-18 Moskva—NATO Code name: Coot (U.S.S.R.)

DIMENSIONS: L—118′ 2″; span—122′ 9″; H—33′ 4″. WEIGHTS: empty—61,730 lbs.; gross—128,740 lbs. POWERPLANTS: (4) Kuznetsov NK-4 or Ivchenko AI-20; normal eshp—4,000. PERFORMANCE: max. speed—404 mph; cruise speed—380 mph; range—1,245 to 3,100 mi. REMARKS: In the same category as the Lockheed Electra, the IL-18 appears to be an attempt to produce an economical transport. It is reportedly being developed in four versions with an eye to the western market.

Handley Page HPR.3 Dart Herald (Great Britain)

TYPE: 43-passenger, twin-engine commercial turboprop transport. DIMENSIONS: L—71′ 11″; span—94′ 9½″; H—22′ 4″. WEIGHTS: empty—22,269 lbs.; gross—37,500 lbs. POWERPLANTS: (2) Rolls-Royce RDa7 MK. 572; normal eshp—2,100. PERFORMANCE: max. speed—286 mph; cruise speed—276 mph; rate of climb—2,600 fpm; max. range—1,438 mi. MANUFACTURER: Handley Page, Ltd., Cricklewood, London N.W.2, England. REMARKS: The Dart Herald is the re-engined four-engine Alvis Leonides-powered prototype. Latter version is possible DC-3 "replacement."



Aviation Traders (Engrg.) Ltd. Photo

Aviation Traders Accountant (Great Britain)

TYPE: 28-passenger, twin-engine, commercial turboprop transport. DIMENSIONS: L—62′ 1″; span—82′ 6″; H—25′ 3½″. WEIGHTS: empty—18,700 lbs.; gross—32,000 lbs. POWERPLANTS: (2) Rolls-Royce Dart RDa6 Mk. 512; normal eshp—1,740. PERFORMANCE: max. cruise speed—295 mph; rate of climb—1,500 fpm; max. range—2,400 mi. MANUFACTURER: Aviation Traders (Engineering) Ltd., Southend and Stansted Airports, Essex, England. REMARKS: Another entry in the DC-3 replacement class, the Accountant was designed in two versions. Only 28-passenger version was built.

De Havilland DH-106 Comet 4 (Great Britain)

TYPE: 60-76 passenger, four-engine commercial jet transport. DIMENSIONS: L—111′ 6″; span—115′; H—28′ 6″. WEIGHTS: empty—70,400 lbs.; gross—152,500 lbs. POWERPLANTS: (4) Rolls-Royce Avon RA.29; normal static thrust—10,500 lbs. PERFORMANCE: max. cruise speed—532 mph; rate of climb—3,000 fpm; max. range—3,150 mi. MANUFACTURER: The de Havilland Aircraft Co., Ltd., Hatfield Aerodrome, Hertfordshire, England. REMARKS: The Comet 4 made its first flight in May and it is expected to enter regular commercial service with BOAC late this year.

Sud Aviation SE.210 Caravelle (France)

TYPE: 80-passenger, twin-engine commercial jet transport. DIMENSIONS: L—104′ 10″; span—112′ 6″; H—28′ 6″. WEIGHTS: empty—51,000 lbs.; gross—90,400 lbs. POWERPLANTS: (2) Rolls-Royce Avon RA.29; normal static thrust—10,500 lbs. PERFORMANCE: max. cruise speed—460 mph; max. range—2,435 mi. MANUFACTURER: Sud-Aviation, Societe Nationale de Constructions Aeronautiques, Paris (16e), France. REMARKS: The Caravelle is being built in two versions. Initially it will be powered with 10,500 lbs. static thrust engines. Later models will have 11,500 lbs. static thrust engines.

An-10 Ukraine—NATO code name: Cat (U.S.S.R.)

TYPE: 71-126 passenger, four-engine commercial turboprop transport. DIMENSIONS: L—119′; span—141′; H—37′ 5″. WEIGHTS: gross—113,-225 lbs.; payload—28,660 lbs. POWERPLANTS: (4) Ivchenko turboprop engines; normal eshp—approx. 4,000. PERFORMANCE: max. speed—404 mph; cruise speed—388 mph; max. range—3,107 mi. REMARKS: All data estimated. This model is expected to go into service with Aeroflot sometime in 1958. Three versions are currently being built—first-class, high density version and mixed first and tourist.

Canadair 540 Cosmopolitan—RCAF: CL-66 (Canada)

TYPE: 44-60 passenger, twin-engine military and commercial turboprop transport. DIMENSIONS: L—79′ 2″; span—105′ 4″; H—28′ 2″. WEIGHTS: empty—31,305 lbs.; gross—53,200 lbs. POWERPLANTS: (2) Napier Eland N.EL.6; normal eshp—3,350. PERFORMANCE: max. cruise speed—326 mph; max. range—1,700 mi. MANUFACTURER: Canadair, Ltd., Montreal, P.Q., Canada. REMARKS: Photo shows Napier Eland Convair 440. Canadair has purchased the manufacturing rights of the Convair 440 Metropolitan and will produce it in modified form for the RCAF and the civil market.

. . . Foreign Transport and Business Aircraft (cont'd.)

. . . Commercial Transports

Agusta AZ-8 (Italy)

TYPE: 22-26 passenger, four-engine commercial transport. DIMENSIONS: L—63′ 9″; span—83′ 8″; H—21′ 8″. WEIGHTS: gross—23,810 lbs. POWERPLANTS: (4) Alvis Leonides Mk.22 503/2; normal hp—470. PERFORMANCE: max. cruise speed—252 mph; economical cruise speed —230 mph; rate of climb—985 fpm; max. range—approx. 1,500 mi. MANUFACTURER: Costruzioni Aeronautiche Giovanni Agusta, Cascina Costa, Gallarate, Italy. REMARKS: This aircraft is designed for operation from small unprepared airstrips. Photo depicts the prototype.

CASA 202 Halcon (Spain)

TYPE: 14-passenger, twin-engine commercial transport. DIMENSIONS: L—52′ 6″; span—70′ 9½″; H—19′ 10½″. WEIGHTS: empty—11,570 lbs.; gross—18,080 lbs. POWERPLANTS: (2) ENMASA BETA B1V; normal hp—775. PERFORMANCE: max. speed—230 mph; cruise speed—205 mph; rate of climb—1,025 fpm; max. range—945 mi. MANUFACTURER: Construcciones Aeronauticas S.A., Madrid, Spain. REMARKS: Spanish military designation—T.6.

Hunting Percival Aircraft Photo

Hunting P.66 President (Great Britain)

TYPE: 6-12 passenger, twin-engine, commercial transport. DIMENSIONS: L—46′; span—64′ 6″; H—16′. WEIGHTS: empty—8,941 lbs.; gross—13,500 lbs. POWERPLANTS: (2) Alvis Leonides 514; normal hp—550. PERFORMANCE: max. speed—221 mph; cruise speed—191 mph; rate of climb—1,070 fpm; max. range—1,000 mi. MANUFACTURER: Hunting Aircraft, Ltd., Luton Airport, Luton, Bedfordshire, England. REMARKS: The President is the civil version of the British military Pembroke. The President can also be used as a 6-place executive transport.

CASA 201 Alcotan (Spain)

TYPE: 10-passenger, twin-engine commercial transport. DIMENSIONS: L—45′ 3″; span—60′; H—13′. WEIGHTS: empty—8,600 lbs.; gross—11,250 lbs. POWERPLANTS: (2) Alvis Leonides 503/7; normal hp—540. PERFORMANCE: max. speed—221 mph; cruise speed—205 mph; rate of climb—1,085 fpm; max. range—1,135 mi. MANUFACTURER: Construcciones Aeronauticas S.A., Madrid, Spain. REMARKS: Spanish military designation—T.5.

De Havilland DH-114 Heron Series II (Great Britain)

TYPE: 14-17 passenger, four-engine, commercial transport. DIMENSIONS: L—48′ 6″; span—71′ 6¼″; H—15′ 7″. WEIGHTS: empty—8,666 lbs.; gross—13,500 lbs. POWERPLANTS: (4) de Havilland Gipsy Queen 30-MR2; normal hp—250. PERFORMANCE: max. cruise speed—191 mph; rate of climb—1,075 fpm; max. range—1,550 mi. MANUFACTURER: The de Havilland Aircraft Co., Hatfield Aerodrome, Hertfordshire, England. REMARKS: The Series I Heron differs from the Series II in that it has a fixed tricycle landing gear. The R.A.F. versions are used as V.I.P. transports.

de Havilland Aircraft Co. Ltd. Photo

Hurel-Dubois HD-321 (France)

TYPE: 44-passenger, twin-engine, commercial transport. DIMENSIONS: L—76′ 4″; span—148′ 7½″; H—28′ 7½″. WEIGHTS: empty—24,498 lbs.; gross—41,200 lbs. POWERPLANTS: (2) Wright 982C9-HE1; normal hp—1,525. PERFORMANCE: max. cruise speed—172 mph; rate of climb—940 fpm; max. range—1,370 mi. MANUFACTURER: Societe de Construction des Avions Hurel-Dubois, Route de Verrieres Meudon-Villacoublay (Seine-et-Oise) France. REMARKS: Photo is of prototype HD-32, which differs only in having 1,200 hp Pratt & Whitney R1830 engines.

Breguet Type 763 Deux-Ponts (France)

TYPE: 107-passenger, four-engine commercial transport. DIMENSIONS: L—94′ 11″; span—140′ 5″; H—32′ 7″. WEIGHTS: empty—68,343 lbs.; gross—113,800 lbs. POWERPLANTS: (4) Pratt & Whitney R2800-CA18; normal hp—2,400. PERFORMANCE: max. speed—231 mph; cruise speed—210 mph; rate of climb—1,080 fpm; max. range—2,930 mi. MANUFACTURER: Societe Anonyme de Ateliers D'Aviation Louis Breguet, Paris (16e), France. REMARKS: Used extensively by Air France, same basic model is also being used by the military (Type 765) as a troop transport and cargo carrier.

Nord 2501 Noratlas (France)

TYPE: 45-passenger, twin-engine military and commercial transport. DIMENSIONS: L—72′; span—106′ 7″; H—19′ 8″. WEIGHTS: empty—28,765 lbs.; gross—46,200 lbs. POWERPLANTS: (2) SNECMA Hercules 738 or 758; normal hp—2,040. PERFORMANCE: max. speed—273 mph; cruise speed—208 mph; rate of climb—1,230 fpm; max. range—930 mi. MANUFACTURER: Societe Nationale de Constructions Aeronautiques du Nord (S.N.C.A.N.), Paris (7e) France. REMARKS: Photo is of a Nord 2502 Noratlas which is exactly the same as the Model 2501 except that it has small wing-tip turbojets.

Scottish Aviation Twin Pioneer (Great Britain)

TYPE: 16 passenger, twin-engine, commercial transport. DIMENSIONS: L—45′ 3″; span—76′ 6″; H—12′ 3″. WEIGHTS: empty—9,974 lbs.; gross—14,000 lbs. POWERPLANTS: (2) Alvis Leonides 514/8; normal hp—540. PERFORMANCE: max. speed—165 mph; cruise speed—117 mph; rate of climb—1,070 fpm; max. range—916 mi. MANUFACTURER: Scottish Aviation, Ltd., Prestwick Airport, Ayrshire, Scotland. REMARKS: Although designed as a commercial transport, the Twin-Pioneer has been ordered in limited numbers by the R.A.F. Philippine Air Lines' Twin Pioneers have Pratt & Whitney R1340 engines.

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CASA 207 Azor (Spain)

TYPE: 30-40 passenger, twin-engine commercial transport. DIMENSIONS: L—68′ 5″; span—91′ 2″; H—25′ 5″. WEIGHTS: empty—21,6[illegible] lbs.; gross—34,500 lbs. POWERPLANTS: (2) Bristol Hercules 730; normal hp—2,040. PERFORMANCE: max. speed—285 mph; cruise speed—266 mph; rate of climb—1,320 fpm; max. range—2,10[illegible] mi. MANUFACTURER: Construcciones Aeronauticas S.A., Madrid, Spain. REMARKS: Spanish Military designation—T.7.

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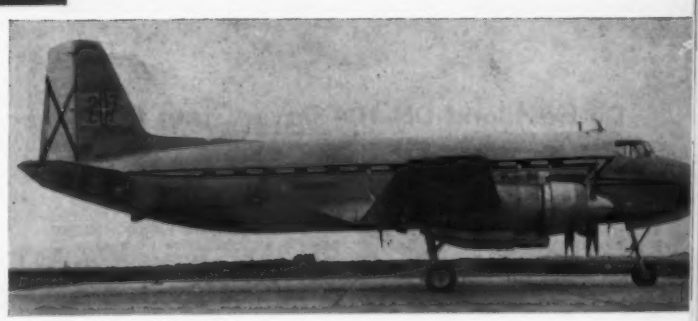

. . . Foreign Transport and Business Aircraft (cont'd.)

. . . Business and Utility—Single-Engine

Scottish Aviation Prestwick Pioneer (Great Britain)

TYPE: 5-place, single-engine, military and commercial utility STOL transport. DIMENSIONS: L—34′ 4¾″; span—49′ 9″; H—11′ 4½″. WEIGHTS: empty—4,260 lbs.; gross—5,800 lbs. POWERPLANT: (1) Alvis Leonides 503/7; normal hp—540. PERFORMANCE: max. speed—145 mph; cruise speed 114 mph; rate of climb—800 fpm; max. range—816 mi. MANUFACTURER: Scottish Aviation Ltd., Prestwick Airport, Ayrshire, Scotland. REMARKS: This aircraft was used extensively by the British Army and Air Force in Malayan jungle operations.

Max Holste MH-1521 Broussard (France)

TYPE: 6-place, single-engine, military and commercial utility transport. DIMENSIONS: L—28′ 2″; span—45′ 1″; H—9′ 2″. WEIGHTS: empty—3,256 lbs.; gross—5,500 lbs. POWERPLANT: (1) Pratt & Whitney R985; normal hp—450. PERFORMANCE: max. speed—168 mph; cruise speed—155 mph; rate of climb—1,082 fpm; max. range—745 mi. MANUFACTURER: Societe des Avions Max Holste, Paris (8e) France. REMARKS: Company is currently building Broussards for the French military services in addition to approx. 60 for civil operators.

De Havilland DHC-3 Otter (Canada)

TYPE: 9-11 place, single-engine military utility and commercial transport. DIMENSIONS: L—41′ 10″; span—58′; H—13′. WEIGHTS: empty—4,368 lbs.; gross—8,000 lbs. POWERPLANT: (1) Pratt & Whitney R1340 S3H1-G or S1H1-G; normal hp—600. PERFORMANCE: max. speed—160 mph; cruise speed—138 mph; rate of climb—735 fpm; max. range—1,098 mi. MANUFACTURER: The de Havilland Aircraft of Canada, Ltd., Toronto, Ontario, Canada. REMARKS: A total of 250 of these aircraft have been built as of April 1958.

De Havilland DHC-2 Beaver (Canada)

TYPE: 5-7 place, single-engine military and commercial utility transport. DIMENSIONS: L—30′ 4″; span—48′; H—9′. WEIGHTS: empty—2,960 lbs.; gross—5,100 lbs. POWERPLANT: (1) Pratt & Whitney R985-SB-3; normal hp—450. PERFORMANCE: max. speed—163 mph; cruise speed—143 mph; rate of climb—1,020 fpm; max. range—650 mi. MANUFACTURER: The de Havilland Aircraft of Canada, Ltd., Toronto, Ontario. REMARKS: Available in five configurations—landplane, seaplane, amphibian, ski-plane and wheel/ski-plane. As of April 1958, a total of 1,169 have been built.

Percival Prentice (Great Britain)

TYPE: 4-5 place, single-engine business plane. DIMENSIONS: L—31′ 6½″; span—46′; H—8′. WEIGHTS: empty—3,250 lbs.; gross—4,350 lbs. POWERPLANT: (1) de Havilland Gipsy Queen 30-2; normal hp—250. PERFORMANCE: max. speed—166 mph; cruise speed—123 mph; rate of climb—600 fpm; max. range—840 mi. REMARKS: Originally used by the R.A.F. as a primary trainer. Some 400 surplus Prentices were bought by Aviation Traders (Engineering) Ltd. and converted to civil business or utility standard. Many of these are now active in several parts of the world.

Nardi FN-333 (Italy)

TYPE: 4-place, single-engine, business-type pusher amphibian. DIMENSIONS: L—24′; span—33′ 3½″; H—10′ 7″. WEIGHTS: empty—1,850 lbs.; gross—2,870 lbs. POWERPLANT: (1) Continental O-470-H; normal hp—240. PERFORMANCE: max. speed—180 mph; cruise speed—166 mph; rate of climb—1,280 fpm; max. range—870 mi. MANUFACTURER: Nardi S.A. Per Costruzioni Aeronautiche, Milan, Italy. REMARKS: The production FN-333 differs from the prototype in that the tail has been redesigned. The prototype was powered with the lower-powered 145 hp Continental.

. . . Business and Utility—Twin-Engine

Morane-Saulnier MS-760 Paris (France)

TYPE: 4-place, twin-engine civil executive and military communications jet aircraft. DIMENSIONS: L—33′; span—33′ 3″; H—8′ 6″. WEIGHTS: empty—4,280 lbs.; gross—7,435 lbs. POWERPLANTS: (2) Turbomeca Marbore II; normal static thrust—880 lbs. PERFORMANCE: max. speed—405 mph; cruise speed—350 mph; rate of climb—2,264 fpm; max. range—939 mi. MANUFACTURER: Morane-Saulnier, Puteaux (Seine), France. REMARKS: The MS-760 is also being built under license in the U.S. by Beech Aircraft Co., Wichita, Kan.

Beech Aircraft Corp. Photo

Super Aero 45 (Czechoslovakia)

TYPE: 4-5 place, twin-engine, business plane. DIMENSIONS: L—25′ 6″; span—40′ 2½″; H—7′ 6″. WEIGHTS: empty—2,116 lbs.; gross—3,527 lbs. POWERPLANTS: (2) Walter Minor 4-III; normal hp—105. PERFORMANCE: max. speed—171 mph; cruise speed—143 mph; rate of climb—825 fpm; max. range—930 mi. REMARKS: Information regarding sales of the Super Aero 45 and other aviation products is handled by: Omnipol Ltd., Washingtonova 11, Prague III, Czechoslovakia.

De Havilland DH-104 Dove (Great Britain)

TYPE: 8-11 place, twin-engine military and civil executive light transport. DIMENSIONS: L—39′ 3″; span—57′; H—13′ 3″. WEIGHTS: empty—5,675 lbs.; gross—8,800 lbs. POWERPLANTS: (2) de Havilland Gipsy Queen 70 Mk. II; normal hp—380. PERFORMANCE: max. cruise speed—202 mph; rate of climb—920 fpm; max. range—875 mi. MANUFACTURER: The de Havilland Aircraft Co., Hatfield Aerodrome, Hertfordshire, England. REMARKS: The Dove has been in production for more than 12 years in which time more than 500 have been built. British military versions are known as the Devon (R.A.F.) and Sea Devon (Navy).

de Havilland Aircraft Co. Ltd. Photo

ROLLS-ROYCE DEVELOPMENTS

Air Cooled Turbine Blades in Service

The latest Rolls-Royce Avon turbo jet engines in squadron service have air cooled turbine blades. This feature permits the use of higher gas temperatures, giving an increase in thrust per pound of engine weight, without affecting blade life.

The proving of this advanced feature in squadron service has established its basic reliability and air cooled turbine blades will be incorporated in the later marks of Rolls-Royce turbo jets and prop-jets for civil air transport.

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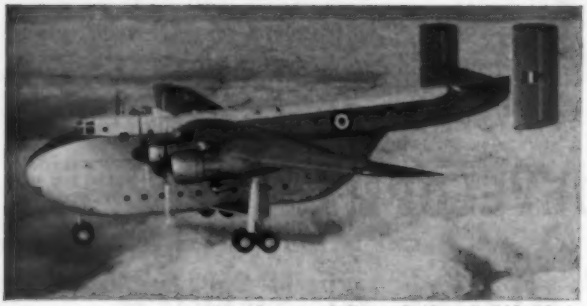
Circle No. 109 on Reader Service Card.

. . . Foreign Transport and Business Aircraft (cont'd.)

. . . Military Transport



Blackburn and General Aircraft Ltd. Photo

Blackburn Beverley C.Mk.1 (Great Britain)

TYPE: 100-passenger, four-engine military transport. DIMENSIONS: L—99′ 5″; span—162′; H—37′ 6″. WEIGHTS: empty—82,100 lbs.; gross—135,000 lbs. POWERPLANTS: (4) Bristol Centaurus 173; normal hp—2,850. PERFORMANCE: max. speed—240 mph; cruise speed—175 mph; rate of climb—760 fpm; max. range—2,500 mi. MANUFACTURER: Blackburn and General Aircraft, Ltd., Brough, East Yorkshire, England. REMARKS: The Beverley now equips several R.A.F. Transport Command Squadrons. In addition to its troop transport role, the Beverley can be quickly converted to carry large cargo items. To date some 47 Beverleys have been built.

. . . Commercial Transports—Out of Production

Short Brothers and Harland Ltd. Photo

Short Solent (Great Britain)

TYPE: 42-passenger, four-engine commercial flying boat. DIMENSIONS: L—88′ 6¾″; span—112′ 9½″; H—34′ 3¼″. WEIGHTS: empty—48,690 lbs.; gross 80,000 lbs. POWERPLANTS: (4) Bristol Hercules 733; normal hp—2,040. PERFORMANCE: max. speed—276 mph; cruise speed—230 mph; rate of climb—990 fpm; max. range—2,330 mi. REMARKS: Civil version of the Seaford flying boat. Several Solents were used by BOAC for a time on the England-to-Australia run. These have now been sold to foreign and domestic independent operators. A total of 23 Solents were built.

Sud-Ouest SO-95 Corse II (France)

TYPE: 10-13 passenger, twin-engine military and commercial transport. DIMENSIONS: L—40′ 5″; span—59′; H—14′ 1″. WEIGHTS: empty—8,863 lbs.; gross—12,346 lbs. POWERPLANTS: (2) Renault 12S-02-201; normal hp—590. PERFORMANCE: max. speed—221 mph; cruise speed—208 mph. REMARKS: Produced in 1947, the Corse II was supplied to the French Navy as a personnel carrier and crew trainer. Several models were built for civil operators. A total of 45 were produced. French Navy designation—SO.95M.

Avro Tudor 4 (Great Britain)

TYPE: 60-passenger, four-engine commercial transport. DIMENSIONS: L—85′ 6″; span—120′; H—24′ 3″. WEIGHTS: empty—51,718 lbs.; gross—82,000 lbs. POWERPLANTS: (4) Rolls-Royce Merlin 623; normal hp—1,810. PERFORMANCE: max. speed—340 mph; cruise speed—305 mph; rate of climb—870 fpm; max. range—2,450 mi. REMARKS: Designed for operation with British South American Airways Corp., the various Tudors produced suffered several major accidents. The remainder were withdrawn from regular service and a few are still used by independent operators. Photo shows a Tudor II.

Sud-Est SE-161 Languedoc (France)

Air France Photo

TYPE: 24-33 passenger, four-engine military and commercial transport. DIMENSIONS: L—79′ 7″; span—96′ 5″; H—16′ 10″. WEIGHTS: empty—27,890 lbs.; gross—45,364 lbs. POWERPLANTS: (4) Pratt & Whitney R1830-92; normal hp—1,200. PERFORMANCE: max. speed—273 mph; cruise speed—233 mph; max. range—1,988 mi. REMARKS: A total of 100 Languedocs were built after World War II. Sixty of these were supplied to the French Navy and Air Force. Several commercial operators in Europe and South America are using Languedocs.

SAAB 90 Scandia (Sweden)

TYPE: 32-passenger, twin-engine commercial transport. DIMENSIONS: L—70′; span—91′ 10½″; H—23′ 3½″. WEIGHTS: empty—21,900 lbs.; gross—36,400 lbs. POWERPLANTS: (2) Pratt & Whitney R2180-E1; normal hp—1,800. PERFORMANCE: max. speed—252 mph; cruise speed—228 mph; rate of climb—1,340 fpm; max. range—1,500 mi. REMARKS: First flown in 1946, the Scandia was used on Scandinavian Airlines routes. Several of these aircraft are now operating in South America. A total of 18 Scandias were built.

Airspeed Limited Photo

Airspeed AS-57 Ambassador (Great Britain)

TYPE: 47-passenger, twin-engine commercial transport. DIMENSIONS: L—82′; span—115′; H—18′ 3½″. WEIGHTS: empty—35,780 lbs.; gross—52,500 lbs. POWERPLANTS: (2) Bristol Centaurus 661; normal hp—2,600. PERFORMANCE: max. cruise speed—288 mph; rate of climb—1,185 fpm; max. range—1,800 mi. REMARKS: Used by British European Airways for a number of years, it was given the class name Elizabethan. Many ex-BEA Elizabethans are currently being used by independent operators. Twenty production types and three prototypes were built.

Bristol 170 Mk. 32 Freighter (Great Britain)

TYPE: mixed passenger/cargo, twin-engine military and commercial transport. DIMENSIONS: L—75′ 8″; span—108′; H—24′. WEIGHTS: empty—29,554 lbs.; gross—44,000 lbs.; payload—11,300 lbs. POWERPLANTS: (2) Bristol Hercules 734; normal hp—2,020. PERFORMANCE: max. speed—227 mph; cruise speed—191 mph; rate of climb—1,380 fpm; max. range—1,500 mi. REMARKS: The Mark 32 is the final version of the Freighter series, superseding the earlier Mark 31 variants. Used by many civil operators throughout the world and also by several foreign air forces. Some 21 Mark 32s and 51 Mark 31Es were built.

Bristol Aeroplane Co. Ltd. Photo

Handley Page Hermes Mk. 4 (Great Britain)

TYPE: 74-passenger, four-engine commercial transport. DIMENSIONS: L—9[illegible] 10″; span—113′; H—30′. WEIGHTS: empty—55,350 lbs.; gross—86,[illegible]00 lbs. POWERPLANTS: (4) Bristol Hercules 763; normal hp—2,100. PERFORMANCE: max. speed—355 mph; cruise speed—266 mph; rate of climb—975 fpm; max. range—3,625. REMARKS: A tricycle gear version of the military Hastings C.Mk.1, the Hermes 4 was produced for British Overseas Airways Corp. These ex-BOAC Hermes are mostly used by independent operators. A total of 25 were built.

. . . Transports—Out of Production

Sud-Ouest SO-30P Bretagne (France)

TYPE: 30 passenger, twin-engine military and commercial transport. DIMENSIONS: L—62′ 2″; span—88′ 2″; H—19′ 4″. WEIGHTS: empty—29,357 lbs.; gross—44,370 lbs. POWERPLANTS: (2) Pratt & Whitney R2800-CA-18; normal hp—2,400. PERFORMANCE: max. speed—267 mph; cruise speed—235 mph; max. range—746 mi. REMARKS: Although the prototype was completed during the German occupation of France in 1942, the first flight did not take place until February 1945. Some 40 commercial Bretagnes were built in two versions. Most of these are now operated by the French Navy.

→

Avro Type 685 York (Great Britain)

TYPE: 12-24 passenger, four-engine commercial passenger/cargo transport. DIMENSIONS: L—76′ 10″; span—102′; H—17′ 10″. WEIGHTS: empty—39,458 lbs.; gross—71,000 lbs. POWERPLANTS: (4) Rolls-Royce Merlin 24; normal hp—1,620. PERFORMANCE: max. speed—306 mph; cruise speed—203 mph; rate of climb—1,500 fpm; max. range—3,050 mi. REMARKS: The York was derived from the World War II Lancaster heavy bomber. Many components of the Lancaster were used in the construction of the York. Production ended in 1948 at which time a total of 253 had been produced.

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Avro Anson 19 (Great Britain)

TYPE: 6-9 passenger, twin-engine commercial transport. DIMENSIONS: L—42′ 3″; span—56′ 6″; H—13′ 6″. WEIGHTS: empty—7,419 lbs.; gross—10,400 lbs. POWERPLANTS: (2) Armstrong Siddeley Cheetah 15; normal hp—420. PERFORMANCE: max. speed—190 mph; cruise speed—158 mph; rate of climb—750 fpm; max. range—610 mi. REMARKS: Originally designed in 1935 as a reconnaissance type, the Anson is still used by the R.A.F. as a communications aircraft and "station hack." Many commercial operators throughout the world are still using the Anson.

Canadair Four (Canada)

TYPE: 44-passenger, four-engine commercial transport. DIMENSIONS: L—93′ 7½″; span—117′ 6″; H—27′ 6¼″. WEIGHTS: empty—46,832 lbs.; gross—82,300 lbs. POWERPLANTS: (4) Rolls-Royce Merlin 620; normal hp—1,730. PERFORMANCE: max. speed—325 mph; cruise speed—280 mph; max. range—3,880 mi. REMARKS: A development of the DC-4M-2, the Canadair Four incorporates many features of the U.S.-built DC-4 and DC-6. British Overseas Airways Corp. has used this model on its international routes for a number of years. It was given the name Argonaut by BOAC.

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British Overseas Airways Corp. Photo

Handley Page Marathon 1A (Great Britain)

TYPE: 18-22 passenger, four-engine commercial transport. DIMENSIONS: L—52′ 1½″; span—65′; H—14′ 1″. WEIGHTS: empty—13,358 lbs.; gross—18,250 lbs. POWERPLANTS: (4) de Havilland Gipsy Queen 70/4; normal hp—340. PERFORMANCE: max. speed—208 mph.; cruise speed—204 mph; rate of climb—1,000 fpm; max. range—1,290 mi. REMARKS: Originally designed by Miles Aircraft which was later acquired by Handley Page (Reading) Ltd. Several are used by the R.A.F. as navigation trainers under the designation T.11. A total of 40 Marathons were built.

→

de Havilland Aircraft Co. Ltd. Photo

De Havilland DH-89A Dragon Rapide (Great Britain)

TYPE: 6-8 passenger, twin-engine commercial transport. DIMENSIONS: L—34′ 6″; span—48′; H—11′ 7″. WEIGHTS: empty—3,260 lbs.; gross—5,550 lbs. POWERPLANTS: (2) de Havilland Gipsy Six; normal hp—205. PERFORMANCE: max. speed—141 mph; cruise speed—135 mph; rate of climb—867 fpm; max. range—560 mi. REMARKS: Of 1934 vintage, the DH-89A was produced for the R.A.F. during World War II. This version was known as the Dominie. Despite its age, the DH-89A, (both civil and ex-military versions) is widely used and in much demand. Some 700 Dominies and Dragon Rapides were built.

De Havilland DHA-3 Drover (Australia)

TYPE: 7-8 passenger, three-engine commercial transport. DIMENSIONS: L—36′ 3″; span—57′; H—10′ 9″. WEIGHTS: empty—4,250 lbs.; gross—6,500 lbs. POWERPLANTS: (3) de Havilland Gipsy Major 10 Mk.2; normal hp—145. PERFORMANCE: max. cruise speed—136 mph; rate of climb—835 fpm; max. range with auxiliary fuel tanks—875 mi. REMARKS: The Drover was first produced in September 1950 and a total of 20 were built. They are used by several Australasian operators and by the Flying Doctor Service as air ambulances.

Vickers Viking 1B (Great Britain)

TYPE: 24-38 passenger, twin-engine commercial transport. DIMENSIONS: L—65′ 4″; span—89′ 3″; H—19′ 6″. WEIGHTS: empty—24,000 lbs.; gross—34,000 lbs. POWERPLANTS: (2) Bristol Hercules 634; normal hp—1,690. PERFORMANCE: max. speed—263 mph; cruise speed—210 mph; rate of climb—1,500 fpm; max. range—1,500 mi. REMARKS: Used for many years by British European Airways, this aircraft was designed to supplement the DC-3 fleet. The R.A.F. version, known as the Valetta, replaced the lend-lease Douglas DC-3s.

British European Airways Photo

IL-12—NATO code name: Coach (U.S.S.R.)

TYPE: 27-32 passenger, twin-engine military and commercial transport. DIMENSIONS: L—69′ 10″; span—104′; H—26′ 6″. WEIGHTS: empty—19,850 lbs.; gross—38,000 lbs. POWERPLANTS: (2) Ash 82FNV; normal hp—1,775. PERFORMANCE: max. speed—230 mph; cruise speed—208 mph; max. range—1,865 mi. REMARKS: Designed as a replacement for the Li-2 (Russian-built DC-3) this transport has been superseded by the later IL-14 (Crate). Several hundred IL-12s are in service with Aeroflot and airlines of Iron Curtain countries.

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Sud-Est SE-2010 Armagnac (France)

TYPE: 84-passenger, four-engine commercial transport. DIMENSIONS: L—130′; span—153′ 6″; H—43′ 10″. WEIGHTS: empty—99,100 lbs.; gross—170,500 lbs. POWERPLANTS: (4) Pratt & Whitney R4360; normal hp—3,500. PERFORMANCE: max. speed—330 mph; cruise speed—280 mph; max. range—3,730 mi. REMARKS: This large European transport flew for the first time in January 1949. A total of eight Armagnacs were built. Six of these are currently used by Societe Auxiliaire de Gerance et de Transports Aeriens, a non-scheduled operator.

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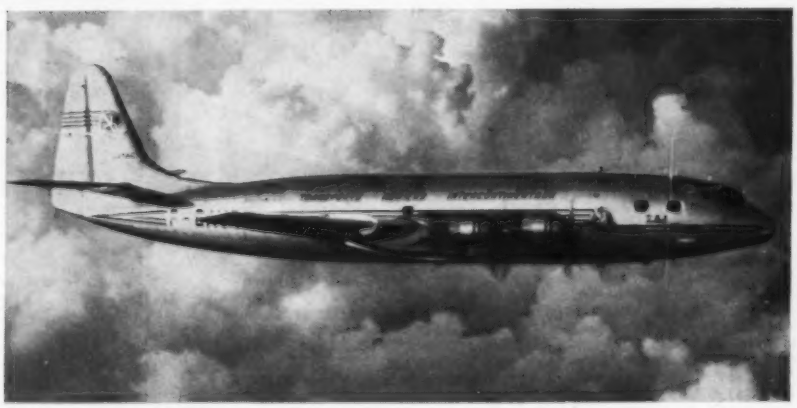


...Business and Utility—Out of Production

Short Sealand (Great Britain)

TYPE: 8-place, twin-engine executive and utility amphibian. DIMENSIONS: L—42′ 2″; span—61′ 6″; H—14′. WEIGHTS: empty—7,065 lbs.; gross—9,100 lbs. POWERPLANTS: (2) de Havilland Gypsy Queen 70; normal hp—345. PERFORMANCE: max. speed—186 mph; cruise speed—128 mph; rate of climb—780 fpm; max. range—1,039 mi. REMARKS: First built in 1948, the Sealand amphibian is used by the Indian Navy and by civil operators throughout the world. A total of 25 were produced.

Short Brothers and Harland Ltd. Photo

Miles Aircraft Ltd. Photo

Miles M-65 Gemini 1A

TYPE: 4-place, twin-engine business plane. DIMENSIONS: L—22′; span—36′ 2″; H—7′ 6″. WEIGHTS: empty—1,910 lbs.; gross—3,000 lbs. POWERPLANTS: (2) Cirrus Minor II; normal hp—100. PERFORMANCE: max. speed—145 mph; cruise speed—135 mph; rate of climb—650 fpm; max. range—1,015 mi. REMARKS: Produced in large numbers after World War II, the Gemini is active in many European countries. Other versions of the Gemini are the 3, 3A, 3B and 7. All differ slightly in horespower. A prototype of the M.75 Aries, which is basically a more powerful and beefed up Gemini, is still active.

Airspeed AS.65 Consul (Great Britain)

TYPE: 5-6 place, twin-engine executive transport. DIMENSIONS: L—35′ 4″; span—53′ 4″; H—10′ 1½″. WEIGHTS: empty—6,000 lbs.; gross—8,250 lbs. POWERPLANTS: (2) Armstrong Siddeley Cheetah 10; normal hp—395. PERFORMANCE: max. cruise speed—155 mph; rate of climb—1,115 fpm; max. range—850 mi. REMARKS: A civil version of the World War II R.A.F. Oxford trainer. Many of these aircraft now flying have converted Oxford airframes. This aircraft can also be used as an air ambulance. A special ambulance/cargo version was also produced.

de Havilland Aircraft Co. Ltd. Photo

U.S. and Foreign Transports Planned

Vickers Armstrongs (Aircraft) Ltd. Photo

Vickers VC-10 (Great Britain)

TYPE: 120-150 passenger, four-engine, commercial jet transport. DIMENSIONS: L—158′; span—140′; H—41′ 2″. WEIGHTS: empty—130,000 lbs.; gross—299,000 lbs. POWERPLANTS: (4) Rolls-Royce Conway; normal static thrust—17,250. PERFORMANCE: max. speed—600 mph class; rate of climb—2,300 fpm; max. range—5,750 fpm. MANUFACTURER: Vickers-Armstrongs, (Aircraft) Ltd., Weybridge, Surrey, England. REMARKS: In May 1957, British Overseas Airways announced orders for 35 valued at about $190.4 million. First delivery is expected some time during 1963.

Convair 880

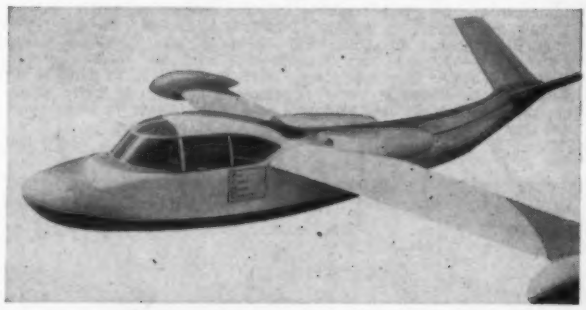
TYPE: 88-109 passenger, four-engine commercial jet transport. DIMENSIONS: L—129′ 4″; span—120′; H—36′. WEIGHTS: empty—82,100 lbs.; gross—178,500 lbs. POWERPLANTS: (4) General Electric CJ805-3; normal static thrust—approx. 10,000 lbs. PERFORMANCE: max. cruise speed—615 mph; max. range with 10,770 gal. fuel capacity—3,250 mi. MANUFACTURER: Convair Div. of General Dynamics Corp., San Diego, Calif. REMARKS: Another competitor in the jet transport field, the Convair 880 has been ordered by five airlines representing some 63 aircraft.

Max Holste MH-250 Super Broussard (France)

TYPE: 17-22 passenger, twin-engine commercial transport. DIMENSIONS: L—51′ 10″; span—70′ 1″; H—20′ 2″. WEIGHTS: empty—8,851 lbs.; gross—14,603 lbs. POWERPLANTS: (2) Pratt & Whitney R1340; normal hp—600. PERFORMANCE: max. speed—225 mph; cruise speed—190 mph; rate of climb—1,570 fpm; max. range—1,062 mi. MANUFACTURER: Societe de Avions Max Holste, Paris (8e) France. REMARKS: A prototype is currently under construction.

ACME A-1 Anser

TYPE: 6-passenger, twin-engine executive jet amphibian. DIMENSIONS: L—39′; span—46′; H—11′. WEIGHTS: empty—4,100 lbs.; gross—10,000 lbs. POWERPLANTS (2) Continental 420M; normal static thrust—1,200. PERFORMANCE: max. speed—471 mph; cruise speed—450 mph; rate of climb—1,600 fpm; max. range—2,200 mi. MANUFACTURER: Air Craft Marine Engineering Co., Van Nuys, Calif. REMARKS: This radical executive amphibian is designed to fill a much-neglected part of business aviation. A prototype is currently under construction.

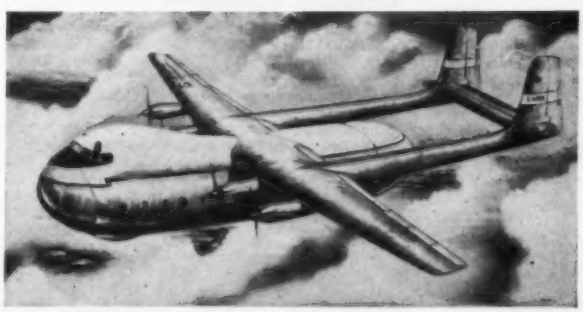


De Havilland DHC-4 Caribou (Canada) (U.S. Army YAC-1)

TYPE: 27-28 passenger, twin-engine military and commercial transport. DIMENSIONS: L—68′ 9½″; span—96′; H—31′ 9½″. WEIGHTS: empty—16,500 lbs.; gross—24,000 lbs. POWERPLANTS: (2) Pratt & Whitney R2000-7M2; normal hp—1,450. PERFORMANCE: max. cruise speed—183 mph; rate of climb—1,570 fpm; max. range—1,350 mi. MANUFACTURER: The de Havilland Aircraft of Canada Ltd., Downsview, Ont., Canada. REMARKS: Scheduled to be rolled out some time during July. U.S. Army has ordered a small number for evaluation.

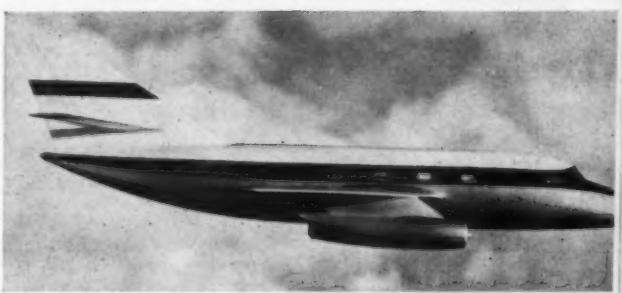
Armstrong Whitworth AW.650 (Great Britain)

TYPE: 77-passenger, four-engine commercial passenger/freight transport. DIMENSIONS: L—86′ 9″; span—115′; H—27′. WEIGHTS: empty—39,850 lbs.; gross—82,000 lbs.; max. payload—28,000 lbs. POWERPLANTS: (4) Rolls-Royce Dart Mk. 526; normal eshp—1,910 plus 505 lbs. jet thrust. PERFORMANCE: max. cruise speed—296 mph; rate of climb—1,400 fpm; max. range with 15,400 lbs. payload—3,000 mi. MANUFACTURER: Sir W. G. Armstrong Whitworth Aircraft, Ltd., Baginton, Nr. Coventry, Warwickshire, England. REMARKS: A production series of ten has been laid down and the first aircraft is due to fly later this year. Many adaptations are possible to suit needs of freight and passenger carriers, also military.



Marcel Dassault Mediterranée (France)

TYPE: 6-8 passenger, twin-engine executive jet transport. No details have been released except that it will be powered by two license-built Armstrong Siddeley Viper (Farandole) turbojets each producing approx. 3,000 lbs. static thrust. Estimated cruise speed is approx. 700 mph. MANUFACTURER: General Aeronautique Marcel Dassault, Saint Cloud (Seine-et-Oise) France.



Generale Aeronautique Marcel Dassault Photo

McDonnell Model 119

TYPE: 10-passenger, four-engine executive jet transport and military utility jet. DIMENSIONS: L—66′; span—57′; H—24′. WEIGHTS: gross—33,750 lbs. (J85 engine) 32,500 lbs. (J83 engine). POWERPLANTS: (4) General Electric J85 or Fairchild J83; normal static thrust—approx. 2,000 lbs. PERFORMANCE: max. cruise speed—595 mph; normal range—1,727 mi. MANUFACTURER: McDonnell Aircraft Corp., St. Louis 3, Mo. REMARKS: The Model 119 was designed for entry in the USAF competition for an off-the-shelf UCX aircraft.

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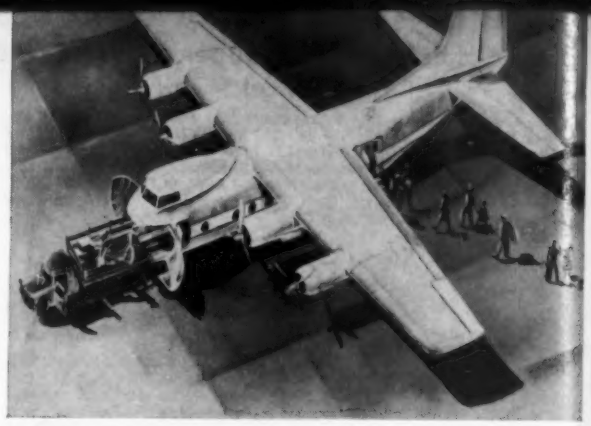
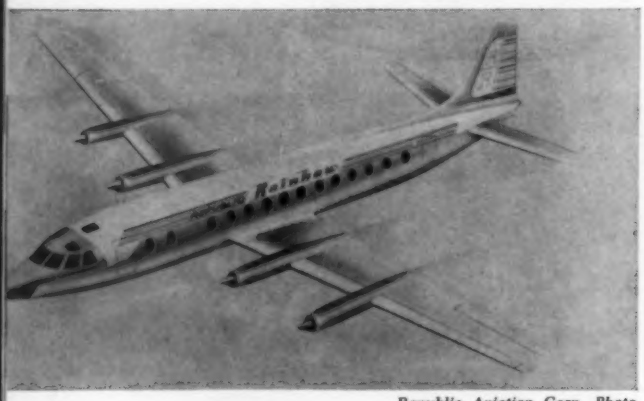
...Transport & Business Aircraft

...Planned Transports

Frye F-1 Safari

TYPE: 56-66 passenger or cargo, four-engine commercial transport. DIMENSIONS: L—79′ 6″; span—109′ 6″; H—30′. WEIGHTS: empty—27,920 lbs.; gross—45,000 lbs. POWERPLANTS: (4) Wright Cyclone 957C7BA1; normal hp—800. PERFORMANCE: max. speed—217 mph; cruise speed—187 mph; rate of climb—929 fpm; max. range—1,855 mi. MANUFACTURER: The Frye Corp., Fort Worth, Tex. REMARKS: The Safari will be offered in either all-passenger, all-cargo or mixed passenger/cargo versions. To date 24 Safaris have been ordered. No announcement has been made as to when the prototype will be rolled out.





Republic Aviation Corp. Photo

Republic Rainbow

TYPE: 68-80 passenger, four-engine commercial turboprop transport. DIMENSIONS: L—87′; span—111′ 11″; H—29′ 6″. WEIGHTS: empty—41,380 lbs.; gross—76,000 lbs. POWERPLANTS: (4) General Electric T-64-GE-4 or Rolls Royce RDa-10; normal eshp—2,600 lbs. PERFORMANCE: max. cruise speed—408 mph; max. range—2,500 mi. MANUFACTURER: Republic Aviation Corp., Farmingdale, Long Island, N.Y. REMARKS: This short-medium range turboprop transport design is being studied by Republic with a view to quantity production.

Vickers 950 Vanguard (Great Britain)

TYPE: 97-139 passenger, four-engine commercial turboprop transport. DIMENSIONS: L—122′ 10″; span—118′ 7″; H—34′ 11″. WEIGHTS: empty—75,150 lbs.; gross—141,000 lbs. POWERPLANTS: (4) Rolls-Royce Tyne; normal eshp—5,030. PERFORMANCE: max. speed—440 mph; cruise speed—425 mph; rate of climb—1,700 fpm; max. range—3,350 mi. MANUFACTURER: Vickers-Armstrongs (Aircraft), Ltd., Weybridge, Surrey, England. REMARKS: The Vanguard turboprop transport is expected to make its first flight late 1958. Some 40 Vanguards are on order.

de Havilland Aircraft Co. Ltd. Photo

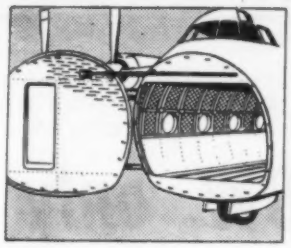
De Havilland DH-121 (Great Britain)

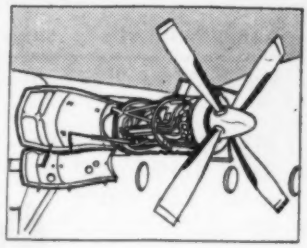
No details have been released on this jet transport except that it is being designed to meet a British European Airways specification for a 90 to 100-seat, medium-range aircraft with a gross weight of slightly more than 100,000 lbs. Speed will be in the 600-mph class and it will be powered by Rolls-Royce jet engines of undetermined model. A new company is being formed which will be known as The Aircraft Manufacturing Co., Ltd. (Airco) to manufacture the DH-121. De Havilland Aircraft Co., Ltd., Hunting and Fairey will participate in this company. BEA has ordered 24 of these transports.

Grumman 159 Gulfstream

TYPE: 10-19 passenger, twin-engine executive and commercial transport. DIMENSIONS: L—64′; span—78′ 6″; H—22′ 9″. WEIGHTS: empty—19,680 lbs.; gross—31,000 lbs. POWERPLANTS: (2) Rolls Royce RDa7/2; normal eshp—2,105. PERFORMANCE: max. cruise speed—370 mph; rate of climb—2,300 fpm; max. range—1,700 mi. MANUFACTURER: Grumman Aircraft Engineering Corp., Bethpage, Long Island, N. Y. REMARKS: Grumman is building two prototypes of this pressurized transport.

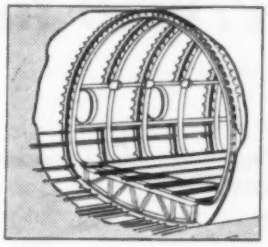
Grumman Aircraft Engineering Corp. Photo

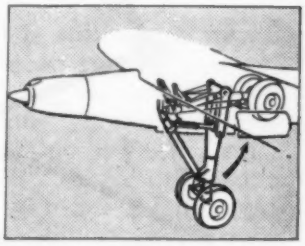


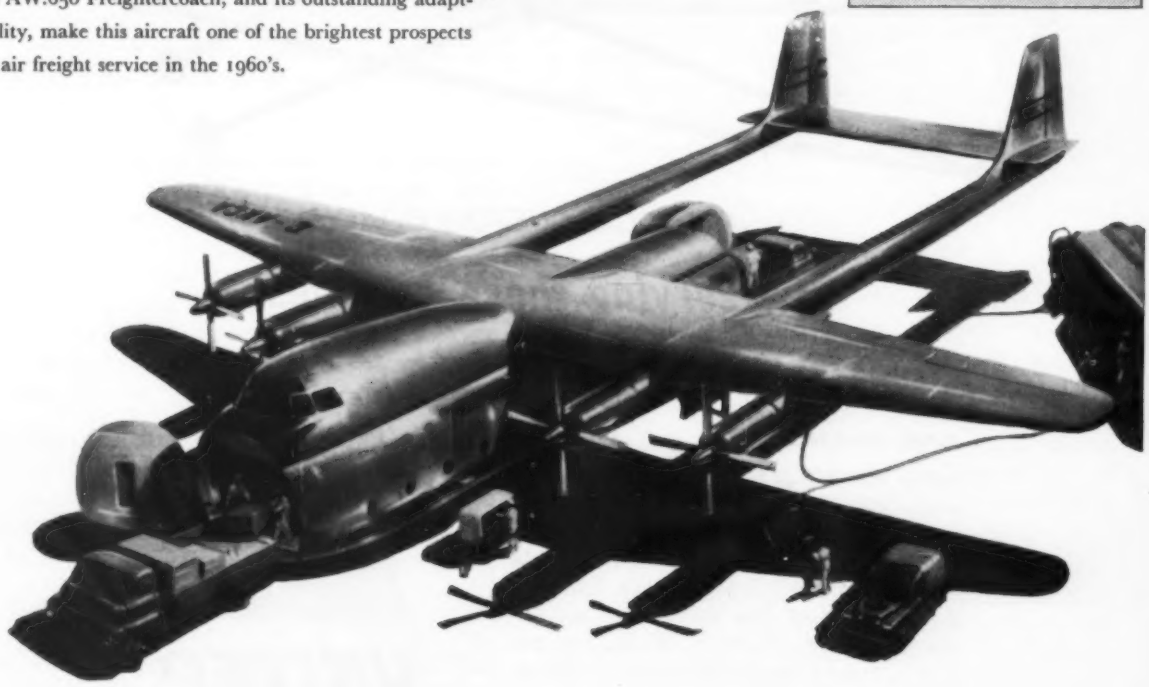


Built-in DEPENDABILITY

Backed by 40 years' experience of aircraft engineering, the AW.650 pressurised turbo-prop Freightercoach is designed to give dependable service on the airfreight routes of the world. Fully tested, simple but robust pressurised structure, proven components and accessories, and the world-renowned Rolls-Royce "Dart" power-plants combine to ensure long overhaul life and minimum line maintenance. The built-in dependability of the AW.650 Freightercoach, and its outstanding adaptability, make this aircraft one of the brightest prospects for air freight service in the 1960's.







THE AW650 Turbo-Prop Freightercoach

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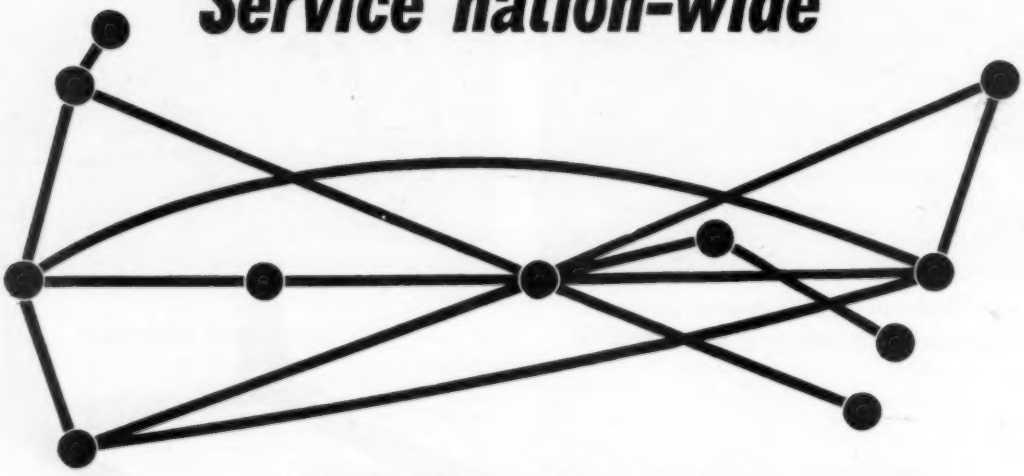

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**Starting in June.*

AIRTRENDS

Edited by Robert Burkhart

Gloomy traffic outlook continues. Domestic trunks' May passenger-miles were 2.5% under corresponding 1957 month. March was down 0.2 % from last year. These are the only two instances in eight years in which traffic has dropped when compared with corresponding month in previous year. May load factor was 56.35% against 60.70% in 1957. There have been no reports of any big upturn in June.

Several carriers say that domestic coach traffic—which consists of more personal travel than expense account business—has dropped faster than first-class. Recession and mid-air collisions are given as contributing factors.

Biggest layoff to hit airlines was TWA's furloughing of 1,000 employes (out of 20,000). Also, officers took 10% salary cut. Reason: Staggering $14 million loss in first five months of 1958. Costs are rising, fares are inadequate, revenues are 15% behind forecast, TWA says.

At least one regional trunk is considering furloughs because of sagging traffic, continued losses.

No money, no Britannias seems to be Northeast Airlines' situation. Company had 60 days following certification of Bristol's turboprop to try to arrange financing for five planes. Time has expired. NEA is reported to have informed Bristol that it wants to cancel the deal. Airline has more than $300,000 tied up in down payments.

A number of industry officials believe that the capable job being done by CAA Administrator James T. Pyle entitles him to a chance at the upcoming Federal Aviation Agency administratorship.

Bright spot in financing picture: Continental Air Lines was successful in getting an underwriting group headed by Lehman Brothers to handle its $12.5 million issue of 5¾% convertible subordinated debentures.

Stronger position for Association of Local and Territorial Airlines results from new membership of Allegheny Airlines. Allegheny was one of seven that stayed with conference of Local Airlines when six others broke away two years ago and formed ALTA. But CLA has been relatively inactive, using Air Transport Association as its headquarters. ALTA has an executive director, Washington office, has been holding regional meetings.

Technically, Allegheny won't quit CLA. It feels ATA can handle many local service problems, will continue participation in that organization through CLA. But it also wants an active separate group for special problems. Chances are that a couple more CLA members will now join ALTA.

Airlines' no-show plan is still in the news. Opposition, led by American Airlines, resulted in Air Traffic Conference Vote to drop $3 penalty on Aug. 12, continue rest of plan only to Dec. 1. But now Air Transport Association directors have ordered a survey, probably to be made through an outside agency, to find out what the public thinks about the plan. And CAB rejected, for technical reasons, a tariff filed by American to cover August and December cutoff dates.

Some observers think this was a stalling move, indicating CAB is studying closely the pros and cons of discontinuing present plan.

More attention is being given to problem of speeding loading of jet transports. One carrier will experiment with a "supermarket" check-out counter, through which ticketed passengers would be boarded quickly. Another is considering possibility of eliminating airport ticket counters, and collecting from unticketed passengers aboard the plane.

Vital decision of U.S. Court of Appeals may result in CAB keeping hands off airline depreciation policies. It upset U.S. District Court verdict which upheld 1956 CAB ruling on depreciation of spare parts and equipment. Result will be return of $50 million worth of equipment from current assets, which can't be depreciated, to fixed assets, which can.

Court said CAB doesn't have authority to regulate depreciation charges except by adjusting or disallowing them in rate-

making. CAB hasn't decided whether to appeal to Supreme Court.

Decision has big effect on equally important case in which CAB ordered airlines to depreciate planes in seven years with 15% residual value. Case is now pending in District Court.

Motion by CAB Member Louis J. Hector calling for the resignation of the Board's executive director, Robert L. Kunzig, failed last week because of a 2-2 tie vote. Vice Chairman Chan Gurney refrained from voting on the grounds that Kunzig was an employe of Chairman Durfee and not of the board, and therefore the Board was not in order in even considering a no-confidence motion.

Boeing was forced to adopt a "no-show" policy for the exhibition of their 707 Jet Stratoliner at Oklahoma City last week. Originally billed as a feature attraction at the opening of the Civil Aeronautics Administration's new air traffic control training center, the big jet transport got caught up in such a procedural snafu that local newspapers headlined: "Big Jet off Limits At CAA Exhibit." Red-faced Boeing officials finally confided to newsmen that this particular ship belonged to Pan American and PAA had ordered a damper on publicity because it was planning a later wing-ding of its own.

Airlines are now competing with aircraft and engine manufacturers and contract shops for overhaul work on military reciprocating engines. Military's position is that engine manufacturers and others are so busy with complex jets that airlines should be given a crack at piston engine work. San Antonio Air Materiel Area is expected to open bids about July 15 on overhaul of 924 R2800 engines.

—TRANSPORT SIDELIGHTS—

Low boiling point but—CAB Chairman Jim Durfee has a pretty low boiling point but it got some real exercise recently when a trunk airline lost his bag. Seems the chairman, returning to Washington, had to wait a half hour for the bag, which never showed up. He held a check properly marked for DCA (District of Columbia Airport). It was a Sunday. He got only brushoffs from baggage handlers and from the airline's clerks. Finally he pulled out a business card and at last one of the clerks awakened to the situation. Some hours later the bag was delivered by special car to the chairman's house; it had traveled to a destination 500 miles beyond Washington.

Such popularity must be deserved—When Eastern Air Lines took out a membership in the Los Angeles Chamber of Commerce recently, it became the 17th airline not serving the southern California city to pay membership dues to the chamber. The list includes a number of foreign as well as domestic carriers. All 17 have one thing in common—they'd like a Los Angeles route.

Unique noise problem solved—Airlines operating DC-3s and Viscounts have encountered an unusual problem—to which Capital Airlines seems to have an answer.

The spread between air-to-ground radio transmission power of the two aircraft is so great that the Viscounts virtually drowned out the DC-3 signals when both aircraft were at the same distance from the ground station.

To eliminate this problem, Capital has installed an Altec-Lansing compressor amplifier in its Washington, D.C. radio facility that levels out the messages from each type of aircraft to the same volume. Altec-Lansing Corp. is located at 9356 Santa Monica Blvd., Beverly Hills, Calif.

Facts about shipping radioactive drugs—Abbott Laboratories Pacific Ltd. has put together some down-to-earth facts about shipping and handling of radioactive drugs. Good reading for airline pilots and airfreight personnel, also CAB staff dealing with regulations. Company's address: Merchandise Mart Plaza, Chicago 54.

Best concession of them all—Car rental concessions at Las Vegas airport have been producing good revenue, but they can't begin to touch the No. 1 revenue producer at that airport. You guessed it: slot machines.

Airlines Report Executive Salaries

Figures given are salaries unless otherwise stated.

MACKEY AIRLINES, INC.

OFFICERS AND DIRECTORS: **Leonard J. Povey**, exec. vp & dir., $10,000 salary; **John H. Popham**, secy.-treas. & dir., $10,000 salary.

NORTHWEST AIRLINES, INC.

OFFICERS: **Croil Hunter**, chm. of bd., $50,000 salary; **Donald Nyrop**, pres. & dir., $52,000 salary; **Malcolm S. Mackay**, exec. vp & dir., $30,000 salary; **Frank C. Judd**, vp-opns. & engrg., $26,250 salary; **Gordon M. Bain**, vp-sales, $26,250 salary; **Linus C. Glotzbach**, vp-personnel, $23,000 salary; **A. E. Floan** (resigned from bd. of dir., 7-8-57), vp, secy. & dir., $22,000 salary; **Leonard S. Holstad**, comptroller, $20,000 salary; **William J. Eiden**, treas., $21,250 salary; **Alroy D. Piepgras**, asst. comptroller, $12,000; **Donald H. Hardesty**, asst. treas., $12,000 salary; **Dale Merrick**, asst. vp-properties, $13,000; **C. L. Stewart**, asst. vp-plans, $15,750 salary; **Paul L. Benscoter**, vp-Orient Region, $15,750 salary; **Frank J. Scott**, asst. secy., $10,100 salary, and **Phillip T. Drotning**, vp-pub. rel., $18,000 salary.
DIRECTORS: (Figures shown are directors' fees.) **William Stern**, $10,600; **James H. Binger**, $900; **Morton H. Fry**, $1,000; **Joseph T. Johnson**, $1,000; **Alonzo Petteys**, $900; **C. Frank Reavis**, $400; **Albert G. Redpath**, $700; **Lyman E. Wakefield, Jr.**, $1,000; **Albert J. Weatherhead, Jr.**, $300; **Hadley Case** (5-20-57*), $300; **Ted R. Gamble** (7-8-57*), $500; **Clyde B. Morgan** (5-20-57*), $500; **Wheelock Whitney** (deceased 3-23-57), $100.
NOTE: *Date of assuming position.
PERSONS OTHER THAN officers, directors and employes who were paid more than $10,000 for personal services during 1957 were: **Dorsey, Owen Barker, Scott & Barber**, Minneapolis, legal services, $15,497; **Ernst and Ernst**, St. Paul, accounting services, $20,983; **Harold R. Harris**, payment to former president under termination agreement dated March 4, 1954, $10,000; **Hodges, Reavis, McGrath & Downey**, New York City, legal and financial services, $20,304; **Koteen and Burt**, Washington, legal services, $24,887, and **C. Edward Leasure**, Wash., legal services, $54,518.

PAN-AMERICAN GRACE AIRWAYS

OFFICERS: **Douglas Campbell**, vp & gen. mgr., $26,500, $7,000 bonus & indir.; **T. J. Kirkland**, vp, $24,500 salary, $4,500 bonus & indir.; **K. A. Lawder**, vp & comptroller (resigned 3-4-57), $8,051 salary; **L. H. Clifton** (3-4-57*), vp & comptroller, $21,000 salary, $3,000 bonus & indir.; **C. S. Collins**, vp, $18,500 salary, $2,500 bonus & indir.; **J. T. Scholtz** (7-22-57*), asst. vp, $17,333 salary, $1,400 bonus & indir.; **Ramon de Murias** (11-4-57*), asst. vp, $12,000 salary, $800 bonus & indir.; **A. J. Phelan**, asst. comptroller, $14,500 salary, $1,150 bonus & indir.; **W. F. Lewis**, asst. treas., $13,200 salary, $800 bonus & indir.; **E. E. Spencer**, asst. treas., $11,500 salary, $850 bonus & indir.
NOTE: *Date of assuming position.
PERSONS OTHER THAN officers, directors and employes who were paid more than $10,000 for personal services during 1957 were: **Covington & Burling**, Washington, D.C., legal, $11,466; **Price Waterhouse & Co.**, New York City, accounting, $11,779; **S. Kip Farington**, Long Island, N.Y., sales promotion, $12,111.

PIEDMONT AVIATION, INC.

OFFICERS AND DIRECTORS: **T. E. Davis**, pres., treas. & dir., $20,004 salary, $4,401 expenses; **C. C. Brown, Jr.**, vp (4-16-57*), $10,600 salary, $1,048 expenses; **H. K. Saunders**, vp & dir., $15,000 salary, $249 expenses; **E. S. Northington**, vp & dir., $9,592 salary, $2,114 expenses; **M. F. Fare**, secy. & dir., $9,950 salary, $1,491 expenses; **C. E. Anderson**, dir., $125 bonus & indir.; **E. L. Davis**, dir. $125 bonus & indir.; **E. L. Davis, Jr.**, dir., $100 bonus & indir.; **Frank Dowd**, dir., $50 bonus & indir.; **R. W. Gardner**, dir. (4-16-57*), $50 bonus & indir.; **Bowman Gray, dir.** (4-16-57*), $25 bonus & indir.; **C. E. Norfleet**, dir., $30 bonus & indir.
NOTE: *Date of assuming position.
PERSONS OTHER THAN officers, directors and employes who were paid more than $10,000 for personal services during 1957 were: **Kilpatrick, Hazard & Beasley**, Washington, D.C., legal service, $19,164; **Liller, Neal & Battle**, Atlanta, Ga., advertising, $183,873.

TRANS-PACIFIC AIRLINES, INC.

OFFICERS AND DIRECTORS: **Ruddy F. Tongg**, pres. & dir., $13,800 salary, $100 dir. fee; **David A. Bell**, exec. vp & dir., $12,800 salary, $100 dir. fee; **H. K. Hee**, vp & dir., $7,800 salary, $100 dir. fee; **Jack Y. Ing**, vp & dir., $7,200 salary, $100 dir. fee; **Walton E. Wood**, vp (9-9-57*), $3,231 salary; **Annie K. Wong**, secy. & dir., $3,600 salary, $100 dir. fee; **Clarence D. Young**, treas. & dir. (10-22-57*), $11,425, $100 dir. fee; **Harry A. Bowen**, asst. secy., $6,000 bonus & indir.; **Daniel K. Ainoa**, vp & dir., $75 dir. fee; **Hung Wai Ching**, vp & dir., $75 dir. fee; **Sai Chow Doo**, vp & dir., $4,275 bonus & indir., **Y. Baron Goto**, vp. & dir., $75 dir. fee; **Kaisumi Kometani**, vp & dir., $50 dir. fee; **Edward L. Lau**, vp & dir., $100 dir. fee; **Richard C. Tongg**, vp & dir., $100 dir. fee; **Charles Boettcher II**, $25 dir. fee; **Ken Yen Chun**, $100 dir. fee.
NOTE: *Date of assuming position.

WEST COAST AIRLINES, INC.

OFFICERS AND DIRECTORS: **Nick Bez**, pres., $17,333 salary, $3,658 expenses; **E. B. Code**, vp, $12,600 salary, $1,409 expenses; **L. J. Hawkinson**, secy.-treas. (12-20-57*); $11,000 salary, $278 expenses; **K. N. Laurin**, asst. treas (12-20-57*), $7,340 salary, $878 expenses; **Thomas R. Croson**, vp, $10,200 salary, $2,393 expenses; **G. Hamilton Beasley**, vp (deceased 11-22-57), $16,375 salary, $5,006 expenses; **R. A. Duwe**, secy.-treas. (resigned 2-1-57), $3,463 salary, $1,600 bonus & indir., $31 expenses.
NOTE: *Date of assuming position.
PERSONS OTHER THAN officers, directors and employes who were paid more than $10,000 for personal services during 1957 were: **International Business Machines**, Washington, D.C., accounting machine metals, $13,745; **Henry, Beeckon & Associates**, Washington, D.C., route extension case exhibit preparation, $16,110; **C. Edward Leasure**, Washington, D.C., legal services, $17,936; **Peat, Marwick, Mitchell & Co.**, Seattle, Wash. audit services and income tax preparation, $17,250.

WIEN ALASKA AIRLINES, INC.

OFFICERS AND DIRECTORS: **Sigurd Wien**, pres. & chm. of bd, $20,000; **George B. Rayburn**, exec. vp & treas., $18,958 salary, $944 expenses; **Fritz Wien**, vp & dir., $17,000 salary, $148 expenses; **Noel Wien**, vp-pub. rel., $16,500 salary, $1,419 expenses; **A. E. Hagberg**, vp, $16,500 salary, $1,663 expenses; **R. M. King**, sec., $17,400 salary, $495 expenses; **C. R. Everts**, dir., $10,373 salary.
PERSONS OTHER THAN officers, directors and employes who were paid more than $10,000 for personal services during 1957 were: **T. I. Seamon**, Washington, D.C., legal services, $13,978.

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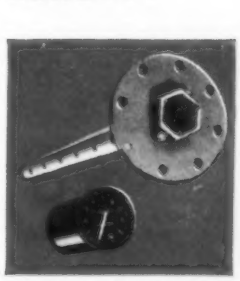
Complete information on all the above systems is available on request.



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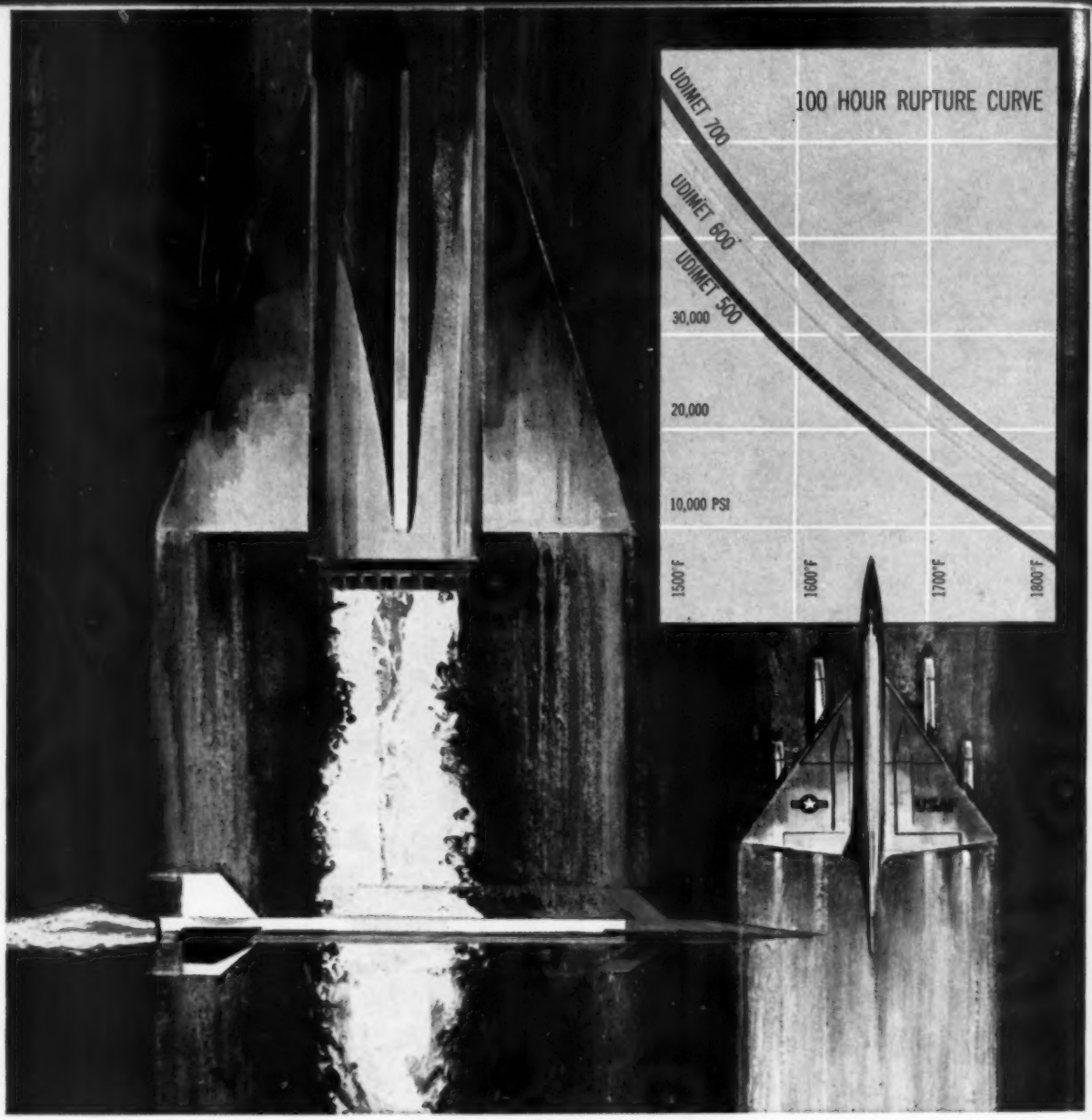

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Fairchild Engine and Airplane Corp. Photos

F-27—The Locals' 'Model-T' Era Ends

by George Hart
Technical Editor

Fairchild Engine & Airplane Corp.'s Aircraft Division chalked up several firsts when it delivered a twin turboprop F-27 Friendship transport to West Coast Airlines last week.

• It was the first U.S.-built turbine-powered airliner ever to be delivered.

• It was the first delivery in more than 20 years of an aircraft which, judging by airline and corporation orders, seems destined to replace the die-hard DC-3.

• It was the first delivery of Fairchild's first effort since World War II in the commercial and executive transport field.

The F-27 was designed specifically as a jet-age replacement for the DC-3. As such, it has been tailored to the needs of corporate and medium-range operations as well as those of the local service carriers. Rising operating costs dictated that the aircraft must have a greater load capacity than the DC-3 to insure economical operation. This increased capacity has been attained without losing the capability of using airports having limited runways.

But the big thing, as far as the carriers are concerned, is that the F-27 signals the end of the "Model T" era on the local-service routes.

Here's an aircraft which, according to the specifications (see table), will haul profitable payloads at some 280 mph over stages which, for the local carriers, average only about 70 miles. This performance is obtained using 1,600-shp Rolls-Royce Dart R.Da.6 turboprops swinging 12-ft. Rotol propellers. For economy, however, such engines may have to be operated at altitudes higher than those normally associated with the "pogo stick" type of operation.

To enable the operator to fly at higher altitudes and attain maximum rates of climb and descent, the F-27 cabin is pressurized. In addition, it's air conditioned and there's less vibration and noise. Thanks to the high wing, visibility from every seat in the cabin is unrestricted. However, this arrangement is a feature which is incidental to passenger appeal, the designers will admit.

The high-wing configuration was chosen for stability. However, it also contributes to advantages in terms of turn-around time.

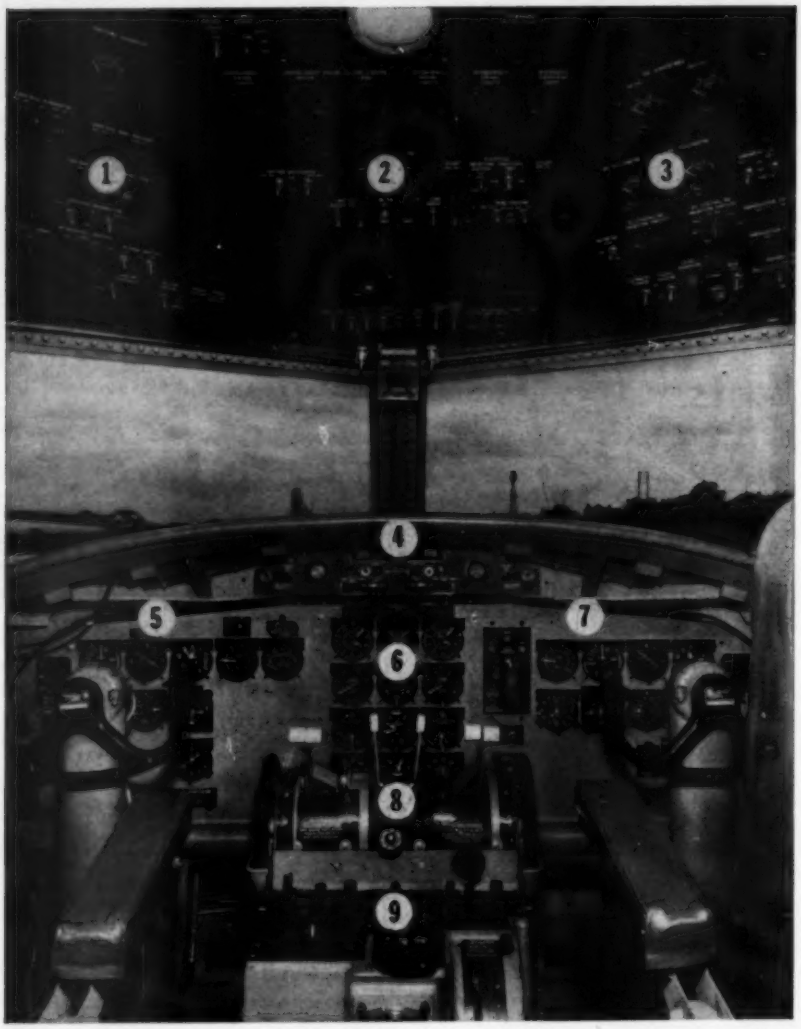
The company believes that accessibility for servicing, as well as passenger, baggage and cargo loading, will permit rapid processing at stops. En route shuffling, it figures, will take well under 10 minutes, and turn-around station service will consume less than 30 minutes on an average.

Structurally, there's far less riveting in the F-27 than in most aircraft of this class. Redux bonding is used in the make-up of more than 50% of the airplane's structure. This method of construction is said to result in a considerable weight reduction as well as in increased strength. Greater fastened area than obtainable by riveting or spot-welding improves fatigue life and simplifies problems associated with pressurization, integral fuel tanks, etc.

• **Lots of fiberglass used**—One of the most noticeable things as far as F-27 construction is concerned is the wide application of fiberglass-reinforced plastic. It's all over the place. The radar nose is made of fiberglass and so are the nose-wheel well doors. Much of the ducting in the air conditioning system is fiberglass, as are areas of the wing trailing edge, fairings between wing and fuselage, some cabin bulkheads, wing and empennage tip fairings, and engine nacelle tail cones. It's even used to shield the fuselage against ice thrown off by the props.

The F-27's wing is made up of five sections consisting of a center section, to which the engine nacelles are attached; two detachable outer panels, each incorporating a 660-gal. integral fuel tank, and two detachable wing tip sections.

Two flap sections between nacelles and fuselage and two outboard of the nacelles are actuated by irreversible screw jacks driven by an electric motor through a combination torque tube and gearbox mechanism. In the event of torque tube or gearbox failure, asymmetric switches stop the flap motor



COCKPIT VIEW—(1) De-icing controls. (2) External light and cabin sign switches, engine and fuel switches, cockpit light switches and space for weather radar controls. (3) Primary and secondary electrical system controls. (4) Emergency panel. (5) Pilot's flight group with space for weather radar screen. Stall warning speed control indicator on glare shield. (6) Engine instruments. (7) Co-pilot's group with landing gear control, gear and flap indicators. (8) Elevator trim tab control, power levers, high pressure valve control, fuel trimmer switches. (9) ADF control, autopilot controls, rudder and aileron trim tab controls, flap control.

INTERIOR VIEW of West Coast Airlines' F-27 looking forward to open door of cockpit. Passenger address system includes ten adjustable speakers.

to prevent more than 1° flap unbalance. Flaps also may be cranked up or down by hand through a gearbox attached to the rear spar at the center line of the airplane.

The wing group is attached to the fuselage in such a manner that there is a dip of some ten inches in the cabin ceiling at this point in the aisle. However, since there is ample headroom generally, this is not a noticeable inconvenience. By means of subtly applied indirect lighting, the dip is brought to the attention of the passenger and is saved from being an eyesore.

• **Three basic versions**—There are three basic versions of the Fairchild F-27 and they differ only slightly from the Fokker-built aircraft. Most noticeable external differences are the longer nose, which Fairchild has designed to house an 18-in. weather radar antenna, and the addition of one passenger window on each side.

Internally, Fairchild's standard airline version of the F-27 has seating capacity for 40 passengers, whereas Fokker's seats 36 passengers. Systems and equipment are Americanized to a great extent in the U.S.-built aircraft and the main passenger door features integral stairs.

The three versions being built by Fairchild are airline, executive and convertible cargo transports. Various versions of these basic types can, of course, be made available to meet individual customer requirements. For instance, Piedmont Airlines' will have seats for 36 passengers, the West Coast Airlines' planes carry a standard 40 passengers and Pacific Air Lines will operate a 44-seat configuration, the highest density announced to date.

All versions are equipped with buffet, wardrobe, lavatory and attendant's station plus two cargo compartments. The forward, 18.7-sq. ft. cargo compartment has a floor capacity of 150 lbs./-sq. ft. and the aft compartment, normally used for carry-on luggage, has an area of 8.2 sq. ft. and a load capacity of 210 lbs./sq. ft.

The convertible cargo F-27 comes equipped with a movable bulkhead at the front end of the cabin. Passengers don't have to look at a pile of cargo which could vary from sleds to jeeps and mining equipment in at least one case, Northern Consolidated Airlines.

(Continued on page 64)

CONSECUTIVE ISSUES

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PRODUCTION SET-UP forms backdrop for tail of this F-27 carrying markings of West Coast Airlines, first to take delivery of the new turboprop transport.

REDUX BONDING is used to fasten stringers in main fuselage section (shown under construction). Floor is metal honeycomb between aluminum alloy sheets.

As a matter of fact, one of the tests to which R. I. Petersen, president of this Alaskan airline, subjected the convertible cargo transport was that of driving just such a vehicle into a full-scale floor layout of the aircraft. Cargo door of this version measures 70" high and 92" wide compared with 41" high and 47" wide in the airline version.

Interior layout of the executive transport varies according to customer requirements. In addition, however, standard equipment in this model includes two 170-gal. bladder-type fuel tanks located in the wing center section between the nacelles and the fuselage. These tanks are available in other versions of the aircraft as optional equipment. This installation imposes a weight penalty of about 190 lbs. but range is increased by some 500 miles.

Normally, all wing tanks are gravity-fueled; however, pressure fueling adapters can be installed in the landing-gear wheel wells towards the rear of the engine nacelles. This modification permits a fueling rate of 200 gals./min. on each side. Normally, too, fuel quantity during fueling is measured by means of dripsticks; however, repeater gauges can be installed near the pressure fueling adapters to duplicate the readings on the cockpit gauges.

• **Pneumatics replace hydraulics**—Perhaps the most unusual thing about the F-27 is that hydraulics have been replaced by pneumatics. The only exception is the electrically driven flap system. The pneumatic system is manufactured by Walter Kidde & Co., Inc. and is used to operate the Dowty landing gear, nose-wheel steering, wheel and propeller brakes and retraction of the passenger entrance door. Air for the system is supplied by two 2-cfm, 3,300-psi, engine-driven compressors operating independently of each other.

Air for the primary pneumatic circuit is stored in a 750-cu. in. steel bottle at 3,300 psi. This pressure is reduced as required to operate nose-wheel steering, landing gear, propeller brakes and passenger door. In addition, air at 3,300 psi is supplied from the main storage cylinder through a check valve to a 100-cu. in. accumulator for brakes.

The Goodyear brakes incorporate a Maxaret anti-skid unit designed by Dunlop of England and manufactured under license in the U.S. by Westinghouse Airbrake Co.

A third 3,300-psi storage bottle with 100-cu. in. capacity supplies air to an emergency circuit and is charged directly from the compressors. This circuit is used for lowering the landing gear in the event of failure in the primary system, and for emergency brake operation through a manually operated brake valve.

• **Advanced air conditioning system**—Fairchild's Stratos Division is responsible for the F-27's pressurization and air conditioning system. Air for this system is supplied by two engine-driven, Roots-type blowers manufactured by Godfrey of England. Cabin pressure is regulated by a Kollsman automatic pressure controller to maintain a cabin altitude of up to 8,000 ft. at flight altitudes to 20,000 ft.

In flight, air conditioning is accomplished by Stratos "bootstrap" air cycle and Freon vapor cycle units, plus a Janitrol heater. On the ground, the vapor cycle unit and the heater are used to maintain cabin temperature at 75°F. Temperature control is such that, if the pilots don't like the conditions selected by the attendant for the cabin, they can dial a different temperature for the cockpit. Components in the air conditioning package are located aft of the rear pressure bulkhead.

Equipment on the aircraft includes Goodrich de-icing boots installed on wing and empennage leading edges. Boots on the wing and horizontal stabilizers have chordwise tubes operated by bleed air from the engines. The fin boot has spanwise tubes. Propellers, spinners and engine air intakes are equipped with cyclic heated electric de-icing boots. Non-cyclic electric de-icing is used for the Nesa-glass, bird-proof windshield, accessory air intakes and pitot tubes.

The F-27's Edison fire-warning system is a continuous cable, resetting type monitoring the engine compartments. The Fenwal fire-extinguishing system consists of two bromochloromethane containers located in each engine nacelle and discharging into the engines. They can't be actuated without first closing the firewall fuel shut-off valve to the engine affected. In addition, three portable fire extinguishers are spotted in the cockpit and cabin.

The primary electrical system is powered by two engine-driven, Jack & Heintz 400-amp., 30-volt DC generators and, in case of generator failure, by two 24-volt nickel cadmium Sono-

tone batteries. The batteries are mounted in the nose, along with two 115-volt, 400 cycle, 500-VA, 3-phase Jack & Heintz inverters feeding the secondary system.

Emergency power for the secondary system is provided by two engine-driven, 115-volt, 400-cycle, 110-VA, 3-phase alternators manufactured by Bendix-Red Bank. De-icing equipment (except pitot heat) is powered by two engine-driven, 208-volt, 3-phase alternators by Westinghouse Electric.

Equipment in the cockpit (see photo) is, for the most part, standard and includes a Safe Flight stall warning system consisting of a speed control indicator and a stick shaker. Autopilot and weather radar is optional both as to procurement and manufacture; however, Fairchild's No. 1 prototype is equipped with a Sperry SP-20 autopilot and No. 2 is equipped with Bendix RDR-1D weather radar and a Collins AP101-E autopilot. The aircraft also can be equipped with Lear and Eclipse-Pioneer autopilots.

standard airline version of Fairchild's

• Carries $590,000 price tag—The F-27 sells for $590,000 and, with some $25 million invested in the project, the company's break-even point is said to be around 200 aircraft. For the future, production rate (now 5 planes per month) could be stepped up to 10 per month without changes in existing tooling.

Immediate plans for growth of the airplane itself call for installation of 1,910-shp Rolls-Royce Dart R.Da.7 turboprops swinging 11½-ft. Rotol propellers. This will up cruise speed to 300 mph, cut fully loaded takeoff distance by 200 ft. and increase maximum rate of climb to 1,770 fpm.

The delivery to West Coast Airlines is the first against orders and options by 15 airlines and almost as many corporate operators, for an announced total of 98 F-27s. Performance in scheduled service over the next year should decide whether or not this aircraft represents the end of the search for a true DC-3 replacement.

— F-27 Performance and Specs —

Basic data: length 77′ 1½″; height, 27′ 6″; span, 95′ 2″; wing area, 754 sq. ft.	
Empty weight	22,237 lbs.
Normal fuel	1,320 gals.
Max. fuel	1,660 gals.
Max. takeoff weight	35,700 lbs.
Max. landing weight	34,000 lbs.
Takeoff distance (S.L. @ max. takeoff weight)	3,680 ft.
Max. rate of climb	1,400 fpm
Single engine rate of climb (max. weight @ 5,000 ft.)	350 fpm
Cruise speed	280 mph
Range with normal fuel (45 min. reserve)	1,697 st. mi.
Stall speed (max. landing weight)	73 mph
Landing distance (max. landing weight)	3,140 ft.

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CEC 131A

WEST COAST TALK

By Fred S. Hunter

So this is news?—Ed Schmeud, former engineering v. p. of Northrop Aircraft, who quit to organize a consulting business of his own, is back with the company on a full-time consulting basis . . . Howard Hughes is negotiating for the purchase of a Lockheed Electra propjet, and may already have closed the deal for all we know . . . With aircraft production diminishing, North American's Los Angeles division is negotiating with the city to take back one of its hangars to save the rent . . . Lockheed Air Terminal, which developed the Aerobridge that United Air Lines is trying out at O'Hare Airport, also is working on a slick monorail device to fit American Airlines' requirements for upper level forward loading of the Boeing 707 . . . Sacramento police department bagged over 1,000 jackrabbits in its 1958 annual hunt at the Sacramento Municipal Airport.

For the record—Watch for the U.S. turbine transport manufacturers to stage a number of spectacular sales promotions before the year is out, such as a world tour by the Lockheed Electra and a nonstop flight from the West Coast to Europe by the Boeing 707 or the Douglas DC-8, or both . . . North American's F-108 long-range interceptor will fly about a year before the same company's B-70 high-performance bomber is ready . . . Douglas Aircraft's sales for fiscal 1958 will total $1 billion, but heavy cash outlays on the DC-8 may mean it will have to cut back on its extra dividend program . . .

Don't ask us—Why did the Institute of the Aeronautical Sciences get cold feet and decide not to ask the State Department to O.K. a proposal to include the Russian TU-104 in the exhibit of domestic and turbine aircraft the IAS will hold in Long Beach as a feature of its summer meeting? . . . How come the airplane with which the Air Force establishes a new official speed record and a new official altitude record, the Lockheed F-104, is one which it chose to cut back so severely, from some 750 originally ordered, to a mere 294? . . . Why does Western Air Lines pick up passenger tickets at the check-in counter, American Airlines at the loading gate and United Air Lines on the airplane?

This and that—Hughes Aircraft has a Convair F-106A on bailment from the Air Force with which it is running flight tests on its new MA-1, which it says is the most sophisticated armament and fire-control system yet devised . . . Air Force has ordered a total of 345 Boeing KC-135 jet tankers and more than likely will buy more . . . Lockheed's Georgia division, which wants the work, would like to talk the front office into going ahead on commercial production of the JetStar whether the military buys or not, but the boys in Marietta will have to talk fast to put it over . . . Biggest reason United Air Lines picked the Boeing 720 over the Convair 880 was engine similarity to the company's DC-8, which would simplify planning and training for flight crews, line maintenance personnel and overhaul requirements, but another was 10 extra seats, which UAL figures will cost it practically nothing.

Miscellaneous information—Northrop Aircraft is again paying $100 rewards to employes who bring in good engineering prospects, but this time only for selected areas in the fluid dynamics group . . . Airlines will benefit substantially from P&W's new guarantee of $29 per flight-hour on parts costs for JT4A-3 (J75) engines, or $6 per hour better than the first guarantee of $35 per hour . . . AiResearch Aviation Service has two DC-3s for sale; one at $232,000 and one at $217,000, but these are real plush, zero-time jobs incorporating Maximizers, bay-view windows, and everything you can think of, including weather radar on one.

This language of ours—Kelly Johnson refers affectionately to the locale of his development engineering group as "the skunk works . . ."

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EN ROUTE

by Wayne W. Parrish

New Zealand Impressions: Young but Old

Having received the full royal treatment of New Zealand's southernmost town of Invercargill, I boarded a National Airways Corp. DC-3 in mid-afternoon for the return flight to Christchurch by way of Dunedin.

For my second evening in Christchurch, my host was Hume Christie, who was one of the organizers of the London-to-Christchurch air race some years ago. Hume and a colleague had called on me in Washington a year or so before the race when they were trying to stir up American participation. The U.S. somehow never got very enthusiastic about the event, which was to commemorate the 100th anniversary of the founding of Christchurch, but Europeans did participate and the race was a fair success.

After dinner Hume drove me around the town, out to the ocean, and up on the 1,400-foot hill overlooking the city from the south. Fine views from here, both day and night. I rather like Christchurch and the area, a very pleasant part of the world with a distinct charm of the kind found so often in England.

Talk about airline competition from the sea, NAC certainly has it between Christchurch and Wellington. I saw the night boat leave Christchurch. It has a capacity of 800 or 900, usually carries 400 or 500, and the night fare is very cheap. NAC has yet to swing more than a fraction of available traffic over to the airline.

I was up early next morning, my last in New Zealand, for the 7:40 a.m. express to Wellington and Auckland, arriving at the latter city just before noon to connect with a Tasman Empire Airways DC-6 for Nandi in the Fiji Islands, where I was to connect at midnight with a Super-Connie of Qantas Empire Airways from Sydney for the long haul to Honolulu. Three airplanes and some thousands of miles, a long day and night and part of a new day before I could stop off at Honolulu for a rest.

At Auckland I had all manner of attention. Leo White and his wife were there, along with Robert Allender, publicity manager for TEAL, and G. K. Grocott and George Franklin, Auckland manager and station superintendent, respectively, for National Airways Corp. It was quite a sendoff.

• **Picturesque, interesting country**—But before I take you away from New Zealand, you ought to know more about one of the most interesting and picturesque countries of the world. It's different from any other place I know of and its two million people are good folks and work hard and have developed a good life for themselves.

There are two main islands comprising the country. The north island is 575 miles long, a maximum of 200 miles wide, and is almost exactly the size of Louisiana. (It's 44,281 sq. miles.)

The south island is 430 miles wide, more rectangular than the north, and is almost exactly the size of Michigan. (It's 58,093 sq. miles.)

Separating these two islands at distances varying from 16 to 130 miles, is Cook Strait, one of the most turbulent bodies of water in the world and an area of very strong winds.

The north island is rugged throughout, with mountains of 3,000 to 6,000 feet altitude and some peaks extending to 9,000 feet. There are all manner of natural phenomena on this island: hot springs, caves and the like, and pretty heavy rainfall.

• **Glaciers, mountain peaks and fjords**—The south island is more appealing to me than the north because it has a high range of snow-covered mountains along the west coast and attractive plains on the east. It is noted for glaciers (Franz Joseph is best known), and peaks such as Mt. Cook, 12,349 ft. high; fjords, gorges, waterfalls, fishing, summer and winter sports.

The west coast of the south island is a fine tourist and vacation center, although accommodations and transport are still somewhat limited—but improving every year. Excursions by air are easily arranged. In many respects the west coast resembles Norway. Rainfall is rather heavy and that leads to fog, mist etc., but if you strike the weather right you'll find a paradise that rates with the best scenic attractions in the world.

Many Americans don't realize how young New Zealand is as a country. It has had a Parliament since 1856, only a little more than a century.

In fact the islands were only discovered in 1642 by Abel Tasman, who made a circuitous voyage around them but didn't land. Then along came Capt. James Cook in 1769 and mapped the islands and annexed them as his own personal property. Didn't take long for the British government to give him some new ideas on that one, however. For years after that, the islands were used as a base for sealers and whalers. It wasn't until 1840 that enough Europeans were on hand to assure peace with the hard-fighting Maoris, the tough natives who kept on battling the intruders until 1871. (There are now about 115,000 of the Maoris on hand.)

So far as is known, the islands were first reached in the 14th Century by Polynesians and I believe the Maori come from that source.

Discovery of gold was what boomed New Zealand in the middle of the last century. In 1861 there were 100,000 persons; by 1881 this figure jumped to 500,000 and in 1901 to 770,000. The 1955 count was 2,164,000.

Auckland is the biggest city—130,000. Wellington, the capital, is next with 120,000. Then come the three cities of the south island—Christchurch, Dunedin and Invercargill.

• **Individual initiative stifled**—Although there is a lot of internal wealth in N.Z., it isn't apparent on the surface. Buildings and homes are all modest. There is no posh atmosphere, nor are there any slums. One might say that N.Z. is middle-class throughout, which is meant to be a tribute, not a slap. The state exercises pretty rigid control over everything, much too much, as a matter of fact, and this tends to stifle individual initiative.

For such a pleasant country it is unfortunate that N.Z. offers so few opportunities for young people and for newcomers. I'm told that the older and well-entrenched citizens of the various towns want to keep things well-entrenched. Father-to-son sort of thing, with newcomers having a difficult time. Young men have limited opportunities and pay is poor. That's why you find so many New Zealanders flying on airlines of other countries.

Things tend to get pretty well constricted. It isn't easy to change tradition and customs, or to break over the line or get out of step. There are only 23 hotel rooms with private bath in Auckland, for example (or were according to latest data at hand), and yet New Zealand wants to attract tourists from around the world. It will be a long time before some rebel is able to pound a table hard enough to get the conservative gentry who run the show down there to get off their duffs and permit some building and aggressive development.

COVER BOY—Cover of *Whites Aviation*, New Zealand's aviation magazine published by friend Leo White, features WWP following his visit last year.

AIRTRENDS

Passage of bill to establish a Federal Aviation Agency will mean that government's newly dedicated Oklahoma City air traffic control training center is likely to be swamped with work even before it's in full operation. Latest version of the bill would make FAA responsible for training military as well as civil air traffic controllers.

Big new ATC study is on the way. It's now in the hands of Airways Modernization Board with consultants Booz, Allen & Hamilton getting the initial nod for AMB contract negotiation.

Scope will border on the fantastic. If initial plan is followed, study would seek traffic forecast year by year from now until 1975, by hour of day, IFR and VFR, segregated as to airline, military or private flying. Entire country would be divided into segments of 1-deg. latitude by 1-deg. longitude.

Increased use of military radar installations in civil air traffic control is under study. Emphasis is on sites that are located on or near high-density terminal airports and airways. Problem is to adapt the military radars to civil use without impairing their defense role. At present there are 22 such "joint use" radars in operation, with 13 more in the CAA's fiscal 1959 budget.

A new concept in en route ATC has been developed by Army. It is a mobile flight-operations center to control its aircraft in combat areas. Center differs from present control towers in that it provides pilot assistance all along his flight plan, in both IFR and VFR conditions. Army thinks the mobile center may have civilian applications, or at least "provide new ideas" for safer and faster flight control.

Doppler frequency feud is raging anew. Stand taken by Air Transport Assn. and Aeronautical Radio, Inc. against order to vacate 8,500 to 9,800 MCS bands (American Aviation, May 19, p. 16) has been sharply opposed by Ryan Aeronautical Co. Ryan action has brought quick technical rebuttal from Arinc's airlines electronic engineering committee (AEEC).

Issue may yet wind up in courts. At stake, observers feel, is military right to usurp any frequencies it chooses for R&D of electronic gear, then later clear the path of obstacles with little or no explanation for "classified" reasons.

Even bigger game may be at stake. Some civil interests contend such Tacan-like controversies stem from inability of FCC to act in other than a "rubber stamp" capacity for military-dominated Interdepartmental Radio Advisory Committee. Congressional review could come if FCC fails to resolve the issue.

Weather Bureau's Plan to improve aviation weather service and bring it in line with present needs, has cleared the Air Coordinating Committee.

What happens to it now is up to Congress. Commerce Dept. money bill has no provision for implementing the plan. With a serious gap existing between service available and service required, there is growing demand that a supplemental appropriation be made so the plan can get off the ground now instead of waiting until fiscal 1960.

A threat for some existing terminal airports may be Civil Aeronautics Board's Special Regulation SR 422, which establishes performance requirements for turbine-powered aircraft. Most jet aircraft were designed in accordance with special conditions authorized under CAA CAR 4B.10, which was an interim measure pending promulgation of a special regulation. SR 422 allows flatter takeoff slope, in some cases reducing usable portion of runways due to obstacle clearance requirements in TSO-N18.

Industry ownership of private airports is on the upswing. One example—Turbo-Dynamics Corp., of Minden, Nev. has purchased an airport at Fort Sumner, N.M. and another at Brookville, Florida. The company bought Douglas-Tahoe airport at Minden last year and is building a factory on the field. Plans for the newly acquired airports include facilities for itinerant aviation and also for industrial development.

NEWS SUMMARY

Edited by Eric Bramley

There won't be any major cutbacks in Defense contracts this year, for economy reasons. The Administration, breaking with the practice of last year, will ask the Congress to boost the debt ceiling to take care of anticipated expenditures. Defense Secretary Neil McElroy says that such a request is inevitable.

Behind the decision to ask for Congressional action is the growing concern over international tensions in Lebanon, and other far-flung points on the globe. There is also a growing feeling that the economy pressures of last summer spurred, if they didn't start, the recession of last fall and winter. Current attitude is—it mustn't happen again.

Production phase of Convair B-58 Hustler program starts about July 1. Air Materiel Command will take over executive responsibility for management of the B-58 production lines from Air Research and Development Command at that time.

There was a lot of Dynasoar interest from non-competitors. Pentagon press desk said it answered nearly as many queries from one firm not in the competition as it did for the press corps. Boeing and Martin will be prime contractors in the development, but one Pentagon source observed: "They'll probably all be in it before the first one flies."

"Foot Dragging" on such matters as procurement policy rules would be ended if President Eisenhower has his way with plans to reorganize the Pentagon according to Defense Secretary McElroy. The new law, if enacted in the form desired by the White House, would allow Assistant Defense Secretary Perkins E. McGuire (Supply and Logistics), among others to deal directly with the Quartermaster Corps, without clearing through the Army Secretary. Similar authority would exist to deal with Navy and Air Force.

Two new divisions will start operations at United Aircraft, July 1. They are the Norden Division, formed from the assets of Norden-Ketay Corp. (acquired under a merger agreement) and the Missiles & Space Systems Division which will take over work now being done by the electronics department of Hamilton-Standard.

Eric Martin, a vice-president who has been general manager of Hamilton-Standard, will head up the new Norden Division as well as Hamilton-Standard. Wright A. Perkins will serve as general manager of the new Missiles Division.

Costs of aircraft are still being used as a "horror story" by Assistant Defense Secretary McNeil to illustrate the current Pentagon dollar dilemma and to explain why force levels and perhaps weapon systems must again be cut in order to fit military requirements within the financial targets set by the Administration.

Air Force is planning a new move to help reduce the possibility of mid-air collisions. About 13,000 AF planes will get a coat of reflective burnt orange paint to improve visibility, during daylight hours.

Informed sources are indicating that the aircraft paint program is an interim step which they hope will help until studies now underway by Air Research and Development Command are completed. They also hope that the paint program will help while Airways Modernization Board and Civil Aeronautics Administration get on with expanding the traffic control system.

The Government's General Passenger Fare Investigation resumes this week in Washington after a four-week recess to allow the CAA's Bureau of Air Operations to revise its presentation in the light of carrier testimony. Principal change in the Bureau's position, as revealed in the more than 250 pages of revised exhibits filed last week, is acceptance of the present fare level of the carriers as "proper."

"The interim fare increase decision of the board earlier this year [4% plus $1 per ticket] is a proper level of fares and should be permitted to remain in effect on a final basis, rather than expire as of January 31, 1959," the Bureau now says. Carriers will have an opportunity in coming weeks to cross-examine supporting witnesses presented by the Bureau.

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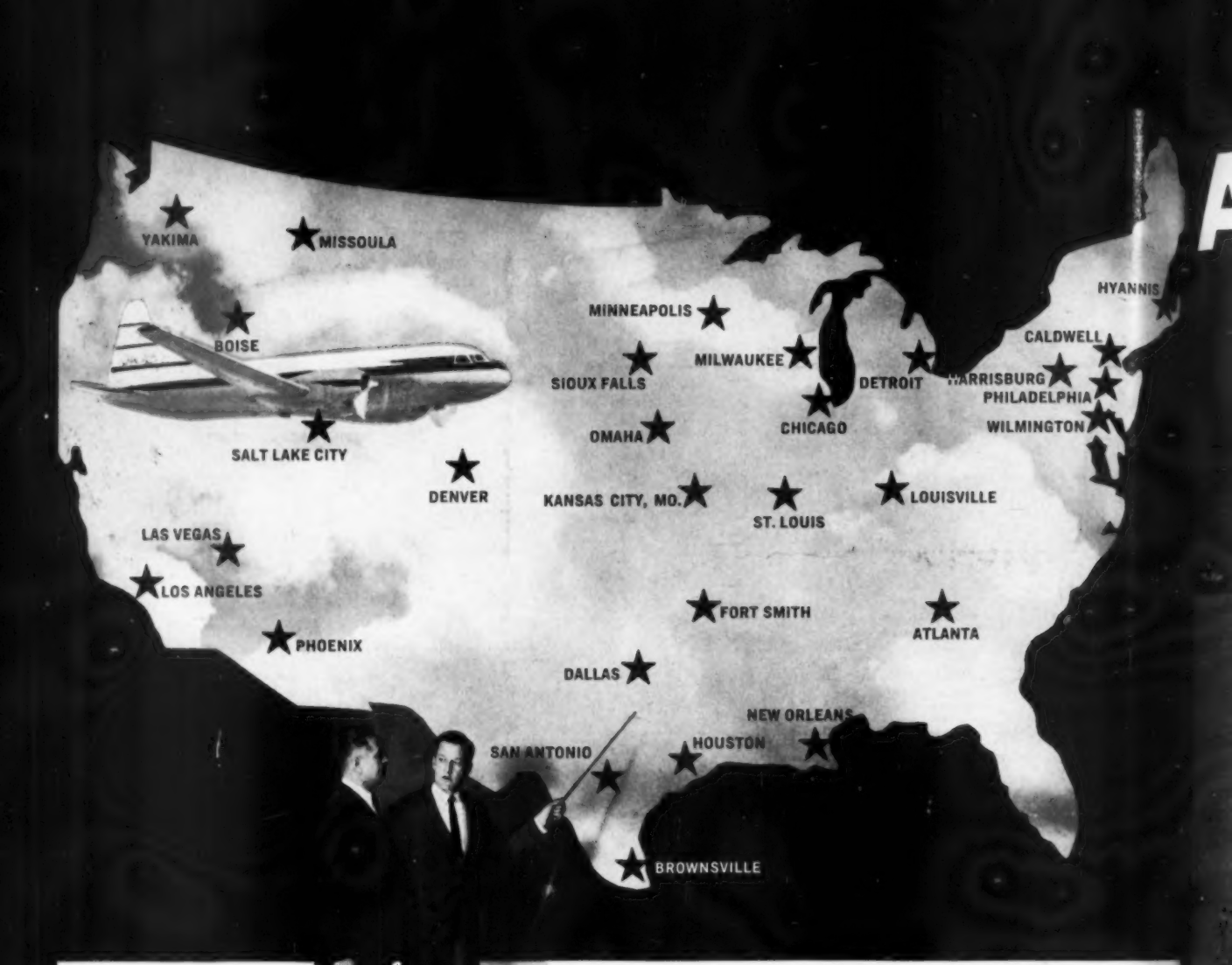

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